Appendix F
Quality Assurance Assessment

APPENDIX F

QUALITY ASSURANCE ASSESSMENT

Following each groundwater sampling event, field and analytical data are reviewed and evaluated for consistency with procedures described in the ***Groundwater Monitoring Quality Assurance Project Plan, Santa Susana Field Laboratory*** (Appendix B of the ***Site-wide Water Quality Sampling Plan***, Haley & Aldrich, 2010). The quality assurance (QA) assessments for each of the three 2011 groundwater sampling events are attached. These assessments describe the evaluations in detail. Please note that references to the report text and tables within each QA assessment are made to the individual reports in which these documents were originally published and not to this annual report.

First Quarter 2011

APPENDIX B

Quality Assurance Assessment

APPENDIX B
QUALITY ASSURANCE ASSESSMENT

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1	Data Validation Reports

APPENDIX B
QUALITY ASSURANCE ASSESSMENT

1. OVERVIEW

Field and laboratory data were reviewed for consistency with the procedures outlined in the *Groundwater Monitoring Quality Assurance Project Plan (QAPP), Santa Susana Field Laboratory* (Appendix B of Haley & Aldrich, 2010) following the first quarter 2011 quarterly groundwater sampling event. Results of the review are discussed in the following sections.

2. INTRODUCTION

2.1 Quality Assurance/Quality Control (QA/QC) Procedures

Following each quarterly groundwater sampling event, field and laboratory data are reviewed for consistency with procedures outlined in the *Groundwater Monitoring Quality Assurance Project Plan, Santa Susana Field Laboratory* (Appendix B of Haley & Aldrich, 2010). As the project develops, it is anticipated that the quality assurance assessment conducted following each quarterly event may be modified. The current procedures include reviewing (a) field forms and documentation and evaluating whether field data were complete, and (b) analytical laboratory data for precision, accuracy, representativeness, comparability, completeness, and sensitivity.

Groundwater samples were submitted to the following laboratories:

Laboratory	Abbreviation	Location
TestAmerica-Denver (Primary)	TA-Denver	Arvada, Colorado
TestAmerica-Irvine (Split)	TA-Irvine	Irvine, California

2.2 Procedures for Collection of Quality Control Samples

The following QC samples were collected as part of the Groundwater Monitoring Program in order to ensure that all groundwater sample analysis results are consistent with the QA objectives.

- **Field duplicates:** Duplicate samples are replicate groundwater samples collected from a given well. Both duplicate samples are submitted to the primary laboratory, but one of them is submitted as a "regular" sample, while the other is submitted as a "blind" duplicate. Field duplicates should be collected at a rate of approximately five percent of the total number of primary field samples, per method, for each sampling event.

- **Split Samples:** Split samples are replicate groundwater samples collected from a given well. One of the split samples is submitted to the primary laboratory and the other to the "split laboratory" for separate analysis and reporting. Split samples should be collected at a rate of five percent of the total number of primary field samples, per method, for groundwater samples collected per the SMOU RFI QAPP (MECx, 2009). If there is a change in the primary laboratory or when verification sampling is required, then split samples should be collected at a rate of once per year, per method, for groundwater samples collected per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010).

- **Field Blanks:** Field blank samples are prepared in the field using High Performance Liquid Chromatography (HPLC) grade water and are "collected" by filling the same type of sample containers as those used for the groundwater samples. Field blanks are then stored with field samples. In this manner, field blanks are intended to assess the potential introduction of contaminants from the source water or ambient air, cross contamination between field samples, and/or artifacts in sample containers. One field blank should be submitted per batch of water used for equipment rinse blanks.

- **Equipment Rinse Blanks:** Equipment rinse blank samples are prepared using HPLC grade water that has been used to rinse non-dedicated sampling equipment after decontaminating the equipment. Per the SMOU RFI QAPP (MECx, 2009), equipment rinse samples should be collected on a daily basis when non-dedicated sampling equipment are used to collected groundwater samples and the equipment rinse blank samples should be analyzed for each parameter analyzed in the field samples. Per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010), equipment rinse blanks should be collected once per sampling event for any parameter analyzed in groundwater samples collected using non-dedicated sampling equipment.

- **Trip Blanks:** Trip blank samples are prepared in the laboratory using de-ionized water. The prepared trip blank samples are shipped from the laboratory with the empty sample containers to the field site and are stored and shipped with the collected samples and are returned to the laboratory unopened. A trip blank is used to assess the potential introduction of contaminants from sample containers or during the transportation and storage process. One trip blank should be carried in each cooler containing field samples for volatile organic compounds (VOCs) and gasoline range organics (GRO) analysis. Trip blank samples will be analyzed for VOCs or GRO.

- **Matrix Spike/Matrix Spike Duplicates:** A matrix spike (MS) is an aliquot of a field sample spiked with a known concentration of all target analytes. A matrix spike duplicate (MSD) is a replicate of this process. Typically, three times the number of sample containers are filled with groundwater collected from a given well in order to provide sufficient volume of sample for MS/MSD preparation and analysis. MS/MSDs should be collected at a rate of approximately five percent of the total number of samples collected, by method, for each sampling event.

2.3 Sample Custody

Chain-of-custody forms were completed by MWH personnel during the performance of sampling activities conducted at SSFL, as per the processes described in the QAPPs. These external chain-of-custody documents were completed appropriately upon sample transfer to analytical laboratory personnel.

2.4 Data Verification Process

Hardcopy data packages and electronic data were provided to Laboratory Data Consultants, Inc. (LDC) of Carlsbad, California, who initially performed a Level V review of the data. This encompassed an evaluation of sample collection procedures, holding times, blanks (to assess contamination), sample duplicates (to assess precision), laboratory control samples (LCS) (to assess accuracy), and MS and surrogate recoveries (to assess accuracy and matrix effects). Under MWH direction, LDC provided a comprehensive Level IV data review of verification samples, new detections, and results that appear to be inconsistent with historical trends or current understanding of transport and fate of chemical constituents. The Level IV validation included a complete review of summary information for instrument calibrations (to assess performance), compound identification, and quantitation, in addition to the Level V items.

Data were assessed in accordance with guidance from the *US Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review* (Office of Solid Waste and Emergency Response [OSWER] 9240.1-34, USEPA-540-R-00-006, June 2001), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (OSWER 9240.1-46, USEPA-540-R-08-01, June 2008), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA 540-R-04-004, October 2004), *Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual* (USEPA, July 2004), and the EPA method-specific protocol criteria, where applicable.

3. QA/QC EVALUATION

3.1 Field Data

3.1.1 Pre-Sampling Water Levels

During the first quarter 2011 sampling event, a total of 345 wells, piezometers, or seeps were scheduled for water level monitoring. Monitoring attempts are summarized below. Twelve wells, piezometers, or seeps were not monitored because:

- the vault was welded shut to prevent surface water from infiltrating the well (two wells)
- the flowing artesian well configuration was incompatible with the use of a pressure gauge/transducer (six wells)
- the flowing seep was incompatible with the use of a pressure gauge/transducer (two seeps)
- downhole access for measurement not available at off-site private well (one well)
- a partially removed FLUTe system prevented access for measurement (one well)

Water Level Monitoring	First Quarter 2011
Number of locations scheduled	345
Number of locations monitored	333
Completeness value	97%

Percent completeness (% C) values presented in this summary were calculated using the following equation:

$$\% C = \frac{\text{Number of Valid (Usable) Measurements}}{\text{Number of Measurements Planned}} \times 100$$

3.1.2 Groundwater Sample Collection

During the first quarter 2011 sampling event, 199 wells, seeps, or piezometers were scheduled for sampling. Of the locations scheduled for sampling, 142 wells or piezometers (71 percent) were sampled. Samples were not collected at a number of locations because the wells or piezometers were either dry, contained inadequate water for sampling purposes, the low-flow well equipment could not be installed, or the wells were not yet constructed.

A sampling completeness of 100 percent was achieved for those wells that could be sampled versus those that were scheduled or planned to be collected in the first quarter of 2011.

3.1.3 QA/QC Sample Collection

The QA/QC sample collection targets are listed in the QAPP (Haley & Aldrich, 2010) and the SMOU RFI QAPP (MECx, 2009). During the first quarter 2011, the QA/QC sample collection targets were met except where wells contained insufficient volume or inadequate quality for sampling.

Percent Completeness for QA/QC Sample Collection		
QC Sample Type	**QAPP (Haley & Aldrich, 2010)**	**SMOU RFI QAPP (MECx, 2009)**
Duplicate samples	98%	100%
Split samples	100%	100%
MS/MSD samples	99%	100%
Trip blanks	99%	
Field blanks	100%	100%
Equipment rinse blank	100%	100%

3.1.4 Water Quality Parameter Measurements

Water quality parameters (pH, oxidation reduction potential [ORP], dissolved oxygen [DO], electrical conductivity, and turbidity) are scheduled to be measured according to the WQSAP (Haley & Aldrich, 2010). All exceptions for the first quarter of 2011 sampling event are listed on Table 7 located in the main body of this report.

3.2 Analytical Data

All laboratories used for this program are certified by the California Department of Public Health Environmental Laboratory Accreditation Program.

3.2.1 Comparison with Historical Water Quality Data

The majority of analyte concentrations increased or decreased somewhat when compared to the results from the prior monitoring event, but most values were within the range of historical data. A summary of results is included in Section 3 of this report.

Verification sampling is conducted when there is a newly detected constituent of concern, or when a constituent of concern is detected above the Regulatory Reference Values (defined in Table 9 of the main body of this report) in samples collected from Regulated Unit Detection monitoring wells. Verification sampling consists of collecting a primary sample, field duplicate,

split sample, equipment rinse sample (non-dedicated equipment only), and a field blank sample and analyzing each for the constituent(s) of concern.

Seven monitoring wells were sampled during the first quarter 2011 to verify new detections. Results of verification sampling are summarized in Table 21 of the main body and Section 3 of this report.

3.2.2 Laboratory Performance Comparison

Results of analyses across laboratories were comparable as indicated by the relative percent differences (RPDs) of split samples (Table B-1). The RPDs were calculated for each analyte detected by both the primary and split laboratories if the analytes were detected at a concentration exceeding five times their respective reporting limits (RLs). RPDs for the split samples are summarized on Table B-1.

$$RPD = \left| ((X_1 - X_2)/X_{ave}) \right| \times 100$$

X_1 =value of first result;
X_2 = value of second result; and
X_{ave} = average concentration = $((X_1 + X_2) / 2)$

All RPDs calculated for first quarter 2011 split samples were less than the project acceptance criterion of 35 with the exception of total copper, iron, and manganese in HAR-17. These results were qualified per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010).

3.2.3 Field Duplicate Sample Precision

The RPDs of field duplicate samples are calculated for all analytes detected in both the primary and duplicate samples and are summarized on Table B-2. The RPDs were calculated for each analyte detected by both the primary and split laboratories if the analytes were detected at a concentration exceeding five times their RLs. The RPD values calculated for first quarter 2011 field duplicate sample analyses were acceptable and below the project acceptance criterion of 35 with the exception of n-nitrosodimethylamine (NDMA) in RS-33. NDMA was qualified per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010).

3.2.4 Blank Accuracy

The method detection limits (MDLs) reported for analytes in field blanks, equipment rinse blanks, and trip blanks were compared to the RL requirements defined in the Groundwater Monitoring (Haley & Aldrich, 2010) and SMOU RFI (MECx, 2009) QAPPs. As required by the project, the MDLs in the blank samples were less than the required RLs, with the following exceptions:

Constituent	QAPP RL Requirement	Laboratory MDL
pH	0.01 pH Units	0.1 pH Units
Orthophosphate-PO4	0.2 milligrams per liter (mg/L)	0.57 mg/L
Dissolved antimony (Method 6010B)	0.002 mg/L	0.0031 mg/L

Although the MDLs listed above do not meet the QAPP RL criteria, they represent the laboratory's lowest achievable detection limits.

As defined in Table 9, the regulatory limit is 8.5 pH units for pH (California Secondary Maximum Contaminant Level [MCL]) and 0.006 mg/L for antimony (California MCL), both are significantly higher than the laboratory RL. Additionally, there is no regulatory limit established for orthophosphate. Therefore, data usability is not affected by the laboratory's inability to meet QAPP requirements.

3.2.5 Data Representativeness, Reproducibility, and Completeness

Data representativeness, reproducibility, and completeness of results were evaluated by verifying the following:

- locations were sampled as scheduled,
- samples were properly collected and preserved (if required),
- procedures to maintain the integrity of samples during shipment were followed,
- sample dilutions were properly conducted,
- chain-of-custody records were complete when submitted or changed appropriately, and
- laboratory QA/QC data were obtained for each sample submitted.

Locations were sampled as scheduled except where wells contained insufficient water volume or where wells were inaccessible. All samples were preserved (where necessary) and shipped following acceptable procedures. Samples from wells with previous trichloroethene concentrations exceeding 3,000 micrograms per liter (µg/L) were segregated during storage and shipment.

A few chain-of-custody forms were not completed satisfactorily. Because the laboratories were notified of the deficiencies immediately following sample submission, all samples submitted were identified correctly and analyzed according to the monitoring schedule. In order to minimize future errors, field personnel were notified of the chain-of-custody form deficiencies.

All samples were received appropriately, identified correctly, and analyzed according to the monitoring requirements.

3.2.6 Data Usability Summary

LDC provided a comprehensive data verification report for each data package that summarized laboratory and project criteria that were not met, and sample results requiring qualification due to QC discrepancies. The verification reports were reviewed by MWH to ensure the verification procedures as described in the QAPPs were followed. The final validated and flagged data were reviewed by the project chemist and team to assess against the project data quality objectives (DQOs) to determine data usability.

3.2.6.1 Sample Data Reporting

Laboratory analytical reports contain laboratory specific data qualifiers. When an analysis was performed without dilution, the RL was based on the most recent MDL study conducted by the contract laboratory. The RL values for the dilution analyses were adjusted for the level of dilution performed. Values presented for target analytes detected at concentrations below the RL but above the MDL were flagged with a "J" as estimated values.

3.2.6.2 Data Qualifiers

The use of data qualifiers is intended to aid users in their interpretation of the sample results. Laboratory-specific data qualifiers were assigned by the laboratories to the reported results in accordance with each laboratory's standard operating procedures. However, some data qualifiers used by the laboratories do not correspond with standard EPA guidance as referenced in this document. The recommended EPA data qualifiers should preclude the use of the laboratory-specific qualifiers so that comparability of the reported results can be achieved if future analyses are performed at other laboratories.

The following is a summary of the data verification/validation qualifiers used in the review:

Qualifier	Description
J	The result is estimated.
R	The result is rejected.
U	The result is not detected above the MDL or reporting limit RL.
UJ	The result is not detected; however, the MDL or RL is qualified as estimated.

3.2.6.3 Summary

All final qualified results summarized on Table B-3 were found to be compliant with the DQOs for the project and are usable for the intended purpose as specified in the WQSAP (Haley & Aldrich, 2010).

TABLE B-1
SUMMARY OF FIRST QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Primary Sample Result	Split Sample Result	Units	RPD
HAR-17	1/20/2011	6020	Antimony	0.00017 J	0.00031 J	mg/L	NA
	1/20/2011	6020	Antimony, Dissolved	0.00014 J	0.0003 U	mg/L	NA
	1/20/2011	6020	Arsenic	0.0012 J	0.0016 J	mg/L	NA
	1/20/2011	6020	Arsenic, Dissolved	0.00056 J	0.0009 U	mg/L	NA
	1/20/2011	6020	Barium	0.097	0.11	mg/L	13
	1/20/2011	6020	Barium, Dissolved	0.067	0.073	mg/L	8.6
	1/20/2011	6020	Cadmium	0.00015 J	0.00015 J	mg/L	NA
	1/20/2011	6020	Cadmium, Dissolved	0.00011 J	0.0001 U	mg/L	NA
	1/20/2011	6010B	Calcium	160	160	mg/L	0.0
	1/20/2011	6010B	Calcium, Dissolved	150	170	mg/L	13
	1/20/2011	6020	Chromium	0.0038 J	0.0045 J	mg/L	NA
	1/20/2011	6020	Chromium, Dissolved	0.0027 J	0.0034 J	mg/L	NA
	1/20/2011	6020	Cobalt	0.00062 J	0.0007 J	mg/L	NA
	1/20/2011	6020	Cobalt, Dissolved	0.00062 J	0.00057 J	mg/L	NA
	1/20/2011	6020	Copper	0.023 J	0.038 J	mg/L	**49**
	1/20/2011	6020	Copper, Dissolved	0.01	0.0085	mg/L	NA
	1/20/2011	6010B	Iron	11 J	19 J	mg/L	**53**
	1/20/2011	6010B	Iron, Dissolved	0.042 J	0.036 J	mg/L	NA
	1/20/2011	6020	Lead	0.0057	0.0062	mg/L	NA
	1/20/2011	6020	Lead, Dissolved	0.00039 J	0.00023 J	mg/L	NA
	1/20/2011	6010B	Magnesium	29	30	mg/L	3.4
	1/20/2011	6010B	Magnesium, Dissolved	28	31	mg/L	10
	1/20/2011	6010B	Manganese	0.52 J	0.75 J	mg/L	**36**
	1/20/2011	6010B	Manganese, Dissolved	0.033	0.037	mg/L	NA
	1/20/2011	6020	Nickel	0.0065	0.0045	mg/L	NA
	1/20/2011	6020	Nickel, Dissolved	0.013	0.012	mg/L	8.0
	1/20/2011	6010B	Potassium	2.6 J	2.8 J	mg/L	NA
	1/20/2011	6010B	Potassium, Dissolved	2.5 J	2.5 J	mg/L	NA
	1/20/2011	6020	Selenium	0.0024 J	0.0031 J	mg/L	NA
	1/20/2011	6020	Selenium, Dissolved	0.0042 J	0.0025 J	mg/L	NA
	1/20/2011	6020	Silver	0.000016 J	0.0001 U	mg/L	NA
	1/20/2011	6020	Silver, Dissolved	0.000022 J	0.0001 U	mg/L	NA
	1/20/2011	6010B	Sodium	120	100	mg/L	18
	1/20/2011	6010B	Sodium, Dissolved	110	120	mg/L	8.7
	1/20/2011	6010B	Strontium	0.83	0.8	mg/L	3.7
	1/20/2011	6010B	Strontium, Dissolved	0.74	0.86	mg/L	15
	1/20/2011	6020	Thallium	0.000067 J	0.0002 U	mg/L	NA
	1/20/2011	6020	Thallium, Dissolved	0.00005 J	0.0002 U	mg/L	NA
	1/20/2011	6020	Tin, Dissolved	0.00018 J	0.005 U	mg/L	NA
	1/20/2011	6020	Vanadium	0.0023 J	0.0029 J	mg/L	NA

TABLE B-1
SUMMARY OF FIRST QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Primary Sample Result	Split Sample Result	Units	RPD
HAR-17, continued	1/20/2011	6020	Vanadium, Dissolved	0.00022 J	0.0008 U	mg/L	NA
	1/20/2011	6020	Zinc	1	1	mg/L	0.0
	1/20/2011	6020	Zinc, Dissolved	0.44	0.37	mg/L	17
HAR-30	2/10/2011	9012	Cyanides	0.003 J	0.0022 U	mg/L	NA
	2/10/2011	4500	Sulfide	0.39	0.42 J	mg/L	NA
PZ-060	1/28/2011	8270C	bis(2-Ethylhexyl) phthalate	0.96 J	3.8 U	µg/L	NA
	1/28/2011	8270C	Diethyl phthalate	1.1 J	5 J	µg/L	NA
PZ-141	2/3/2011	300.0	Bromide	0.18 J	0.36 J	mg/L	NA
	2/3/2011	300.0	Chloride	70	78	mg/L	11
	2/3/2011	8260B	cis-1,2-Dichloroethene	18	0.32 U	µg/L	NA
	2/3/2011	8270C	Di-n-octyl phthalate	2.2 J	3.4 UJ	µg/L	NA
	2/3/2011	300.0	Fluoride	0.34 J	0.45 J	mg/L	NA
	2/3/2011	300.0	Nitrate-NO3	1 J	0.32 J	mg/L	NA
	2/3/2011	300.0	Sulfate	310	320	mg/L	3.2
	2/3/2011	8260B	trans-1,2-Dichloroethene	0.16 J	0.3 U	µg/L	NA
	2/3/2011	8260B	Trichloroethene	59	0.26 U	µg/L	NA
	2/4/2011	6010B	Aluminum, Dissolved	0.11 J	0.04 U	mg/L	NA
	2/4/2011	6020	Arsenic, Dissolved	0.0021 J	0.0011 J	mg/L	NA
	2/4/2011	6020	Barium, Dissolved	0.016	0.014	mg/L	NA
	2/4/2011	6010B	Boron, Dissolved	0.17	0.17	mg/L	NA
	2/4/2011	6010B	Calcium, Dissolved	130	120	mg/L	8.0
	2/4/2011	6020	Cobalt, Dissolved	0.00024 J	0.00036 J	mg/L	NA
	2/4/2011	6020	Copper, Dissolved	0.0007 J	0.0015 J	mg/L	NA
	2/4/2011	8015B	Diesel Range Organics (C12-C14)	0.074 J	0.29	mg/L	NA
	2/4/2011	8015B	Diesel Range Organics (C21-C30)	0.032 J	0.097 U	mg/L	NA
	2/4/2011	8015B	Diesel Range Organics (C8-C30)	0.11 J	0.46	mg/L	NA
	2/4/2011	6010B	Iron, Dissolved	0.16	0.022 U	mg/L	NA
	2/4/2011	6010B	Magnesium, Dissolved	73	72	mg/L	1.4
	2/4/2011	6020	Manganese, Dissolved	0.071	0.056	mg/L	24
	2/4/2011	6020	Molybdenum, Dissolved	0.0065	0.006	mg/L	8.0
	2/4/2011	6020	Nickel, Dissolved	0.0019 J	0.0011 J	mg/L	NA
	2/4/2011	6010B	Potassium, Dissolved	13	12	mg/L	NA
	2/4/2011	6020	Selenium, Dissolved	0.0013 J	0.0014 J	mg/L	NA
	2/4/2011	6010B	Sodium, Dissolved	130	120	mg/L	8.0
	2/4/2011	6020	Vanadium, Dissolved	0.0022 J	0.0024 U	mg/L	NA
RD-58A	1/14/2011	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	1.9 J	2 J	µg/L	NA
	1/14/2011	350.1	Ammonia-N	0.15 J	0.048 U	mg/L	NA
	1/14/2011	6020	Antimony	0.00016 J	0.0003 U	mg/L	NA
	1/14/2011	6020	Antimony, Dissolved	0.00017 J	0.0003 U	mg/L	NA
	1/14/2011	6020	Barium	0.07	0.061	mg/L	14

TABLE B-1
SUMMARY OF FIRST QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Primary Sample Result	Split Sample Result	Units	RPD
RD-58A, continued	1/14/2011	6020	Barium, Dissolved	0.066	0.064	mg/L	3.1
	1/14/2011	6010B	Calcium	160	150	mg/L	6.5
	1/14/2011	6010B	Calcium, Dissolved	160	160	mg/L	0.0
	1/14/2011	8260B	cis-1,2-Dichloroethene	2.2 J	2.6	µg/L	NA
	1/14/2011	6020	Cobalt	0.00032 J	0.00016 J	mg/L	NA
	1/14/2011	6020	Cobalt, Dissolved	0.00029 J	0.00024 J	mg/L	NA
	1/14/2011	6020	Copper	0.00056 U	0.00097 J	mg/L	NA
	1/14/2011	6020	Copper, Dissolved	0.00056 U	0.0015 J	mg/L	NA
	1/14/2011	6010B	Iron, Dissolved	0.022 U	0.03 J	mg/L	NA
	1/14/2011	6010B	Magnesium	39	37	mg/L	5.3
	1/14/2011	6010B	Magnesium, Dissolved	39	40	mg/L	2.5
	1/14/2011	6020	Nickel	0.0045	0.0005 U	mg/L	NA
	1/14/2011	6010B	Potassium	4.6 J	4 J	mg/L	NA
	1/14/2011	6010B	Potassium, Dissolved	4.4 J	4.3 J	mg/L	NA
	1/14/2011	6020	Silver, Dissolved	0.000016 J	0.0001 U	mg/L	NA
	1/14/2011	6010B	Sodium	94	83	mg/L	12
	1/14/2011	6010B	Sodium, Dissolved	91	89	mg/L	2.2
	1/14/2011	6010B	Strontium	0.54	0.49	mg/L	9.7
	1/14/2011	6010B	Strontium, Dissolved	0.52	0.52	mg/L	0.0
	1/14/2011	8260B	Trichloroethene	110 J	120	µg/L	8.7
	1/14/2011	6020	Zinc	0.29	0.26	mg/L	11
RD-58A	1/14/2011	6020	Zinc, Dissolved	0.29	0.27	mg/L	7.1
SH-03	2/2/2011	524.2	1,2,3-Trichloropropane	0.0086	0.01	µg/L	NA
SH-09	2/7/2011	524.2	1,2,3-Trichloropropane	0.0035 J	0.0053	µg/L	NA
SH-11	1/20/2011	8270C	bis(2-Ethylhexyl) phthalate	0.86 J	3.2 U	µg/L	NA
	1/20/2011	8270C	Diethyl phthalate	0.37 U	0.26 J	µg/L	NA

RPDs are only calculated when an analyte is detected in both the primary and split samples at concentrations exceeding five times their RLs.
Results in bold exceed the acceptance criterion of 35.

NOTES AND ABBREVIATIONS
J - the result is estimated
µg/L - micrograms per liter
NA - not applicable
RPD - relative percent difference
U - the result is not detected above the method detection limit (MDL) or reporting limit (RL)
UJ - the result is not detected; however, the MDL/RL is qualified as estimated
mg/L - milligrams per liter

TABLE B-2
SUMMARY OF FIRST QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Primary Sample Result		Duplicate Sample Result		Units	RPD
ES-26	1/18/2011	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	15		15		µg/L	NA
	1/18/2011	6010B	Calcium	140		140		mg/L	0.0
	1/18/2011	6010B	Calcium, Dissolved	140		140		mg/L	0.0
	1/18/2011	8260B	cis-1,2-Dichloroethene	1.7		1.7		µg/L	NA
	1/18/2011	6010B	Iron	0.15		0.15		mg/L	NA
	1/18/2011	6010B	Iron, Dissolved	0.12		0.12		mg/L	NA
	1/18/2011	6010B	Magnesium	16		16		mg/L	NA
	1/18/2011	6010B	Magnesium, Dissolved	16		16		mg/L	NA
	1/18/2011	6010B	Manganese	0.13		0.13		mg/L	0.0
	1/18/2011	6010B	Manganese, Dissolved	0.13		0.13		mg/L	0.0
	1/18/2011	6010B	Potassium	1.9	J	1.9	J	mg/L	NA
	1/18/2011	6010B	Potassium, Dissolved	1.9	J	1.9	J	mg/L	NA
	1/18/2011	6010B	Sodium	91		92		mg/L	1.1
	1/18/2011	6010B	Sodium, Dissolved	90		92		mg/L	2.2
	1/18/2011	6010B	Strontium	0.78		0.78		mg/L	0.0
	1/18/2011	6010B	Strontium, Dissolved	0.76		0.78		mg/L	2.6
	1/18/2011	8260B	Trichloroethene	7.9		7.7		µg/L	2.6
	1/18/2011	6010B	Zinc	0.13		0.13		mg/L	0.0
	1/18/2011	6010B	Zinc, Dissolved	0.12		0.12		mg/L	0.0
	1/17/2011	1625M	n-Nitrosodimethylamine	0.0059		0.0058		µg/L	NA
HAR-01	2/1/2011	1625M	n-Nitrosodimethylamine	0.0082		0.0088		µg/L	NA
HAR-07	1/27/2011	1625M	n-Nitrosodimethylamine	0.025		0.024		µg/L	NA
HAR-08	1/17/2011	1625M	n-Nitrosodimethylamine	0.016		0.016		µg/L	NA
HAR-09	1/26/2011	1625M	n-Nitrosodimethylamine	0.017		0.0081		µg/L	NA
HAR-12	1/18/2011	1625M	n-Nitrosodimethylamine	0.015		0.017		µg/L	NA
HAR-14	1/18/2011	1625M	n-Nitrosodimethylamine	5.1		4.9		µg/L	4.0
HAR-16	1/25/2011	8260B	1,1-Dichloroethene	7.2	J	7.1	J	µg/L	NA
	1/25/2011	8260B SIM	1,4-Dioxane	5		5.1		µg/L	NA
	1/25/2011	350.1	Ammonia-N	0.42	U	0.097	J	mg/L	NA
	1/25/2011	6010B	Calcium	33		32		mg/L	3.1
	1/25/2011	6010B	Calcium, Dissolved	34		34		mg/L	0.0
	1/25/2011	300.0	Chloride	34		36		mg/L	5.7
	1/25/2011	8260B	cis-1,2-Dichloroethene	42		42		µg/L	NA
	1/25/2011	300.0	Fluoride	0.36	J	0.34	J	mg/L	NA
	1/25/2011	DV-WC-0077	Hydrazine	0.67	U	1.1	J	µg/L	NA
	1/25/2011	6010B	Magnesium	6.9		6.7		mg/L	NA
	1/25/2011	6010B	Magnesium, Dissolved	7.3		7.2		mg/L	NA
	1/25/2011	6010B	Manganese	0.00049	J	0.00092	J	mg/L	NA
	1/25/2011	DV-WC-0077	Monomethylhydrazine	0.24	U	1.5	J	µg/L	NA
	1/25/2011	300.0	Nitrate-NO3	21		22		mg/L	4.7

TABLE B-2
SUMMARY OF FIRST QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Primary Sample Result		Duplicate Sample Result		Units	RPD
HAR-16, continued	1/25/2011	1625M	n-Nitrosodimethylamine	4.4		4.8		µg/L	8.7
	1/25/2011	314.0	Perchlorate	130		120		µg/L	NA
	1/25/2011	314.0	Perchlorate	130		130		µg/L	0.0
	1/25/2011	6860	Perchlorate	130		120		µg/L	NA
	1/25/2011	6860	Perchlorate	130		130		µg/L	0.0
	1/25/2011	9040B	pH	6.64	J	6.6	J	pH Units	0.6
	1/25/2011	6010B	Potassium	0.94	J	1	J	mg/L	NA
	1/25/2011	6010B	Potassium, Dissolved	0.97	J	0.92	J	mg/L	NA
	1/25/2011	6010B	Sodium	55		55		mg/L	0.0
	1/25/2011	6010B	Sodium, Dissolved	56		55		mg/L	1.8
	1/25/2011	2510B	Specific conductivity	430		450		umhos/cm	4.5
	1/25/2011	6010B	Strontium	0.15		0.15		mg/L	0.0
	1/25/2011	6010B	Strontium, Dissolved	0.16		0.16		mg/L	0.0
	1/25/2011	300.0	Sulfate	36		38		mg/L	5.4
	1/25/2011	2320B	Total Alkalinity	110		110		mg/L	0.0
	1/25/2011	2540C	Total Dissolved Solids	290		300		mg/L	3.4
	1/25/2011	8260B	Trichloroethene	3000		2700		µg/L	11
	1/25/2011	8260B	Trichlorofluoromethane	5.6	J	5.3	J	µg/L	NA
	1/25/2011	6010B	Zinc	0.064		0.065		mg/L	NA
	1/25/2011	6010B	Zinc, Dissolved	0.07		0.068		mg/L	NA
HAR-19	1/20/2011	8260B	1,1-Dichloroethene	0.39	J	0.37	J	µg/L	NA
	1/20/2011	6010B	Calcium	170		170		mg/L	0.0
	1/20/2011	6010B	Calcium, Dissolved	160		160		mg/L	0.0
	1/20/2011	300.0	Chloride	73		73		mg/L	NA
	1/20/2011	8260B	cis-1,2-Dichloroethene	130		130	J	µg/L	0.0
	1/20/2011	300.0	Fluoride	0.12	J	0.12	J	mg/L	NA
	1/20/2011	8015B	Kerosene Range (C15-C20)	0.045	J	0.048	J	mg/L	NA
	1/20/2011	6010B	Magnesium	18		19		mg/L	NA
	1/20/2011	6010B	Magnesium, Dissolved	18		18		mg/L	NA
	1/20/2011	6010B	Manganese	0.25		0.25		mg/L	0.0
	1/20/2011	6010B	Manganese, Dissolved	0.23		0.23		mg/L	0.0
	1/20/2011	9040B	pH	7.05	J	7.03	J	pH Units	0.3
	1/20/2011	6010B	Potassium	5.1		5.2		mg/L	NA
	1/20/2011	6010B	Potassium, Dissolved	4.9	J	4.9	J	mg/L	NA
	1/20/2011	6010B	Sodium	150		150		mg/L	0.0
	1/20/2011	6010B	Sodium, Dissolved	150		150		mg/L	0.0
	1/20/2011	2510B	Specific conductivity	20000		21000		umhos/cm	4.9
	1/20/2011	6010B	Strontium	0.57		0.57		mg/L	0.0
	1/20/2011	6010B	Strontium, Dissolved	0.52		0.52		mg/L	0.0
	1/20/2011	300.0	Sulfate	220		220		mg/L	0.0

TABLE B-2
SUMMARY OF FIRST QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Primary Sample Result		Duplicate Sample Result		Units	RPD
HAR-19, continued	1/20/2011	2320B	Total Alkalinity	490		500		mg/L	2.0
	1/20/2011	2540C	Total Dissolved Solids	940		930		mg/L	1.1
	1/20/2011	8260B	trans-1,2-Dichloroethene	120		130	J	µg/L	8.0
	1/20/2011	8260B	Trichloroethene	63		60	J	µg/L	4.9
	1/20/2011	8260B	Vinyl chloride	10		13	J	µg/L	26
	1/20/2011	6010B	Zinc	0.068		0.067		mg/L	NA
	1/20/2011	6010B	Zinc, Dissolved	0.065		0.066		mg/L	NA
HAR-21	1/26/2011	1625M	n-Nitrosodimethylamine	0.048		0.048		µg/L	0.0
HAR-23	1/20/2011	1625M	n-Nitrosodimethylamine	0.028		0.029		µg/L	3.5
HAR-30	2/10/2011	4500	Sulfide	0.39		0.33		mg/L	NA
HAR-32	1/17/2011	1625M	n-Nitrosodimethylamine	0.18		0.18		µg/L	0.0
PZ-060	1/28/2011	8270C	bis(2-Ethylhexyl) phthalate	0.96	J	1.1	J	µg/L	NA
	1/28/2011	8270C	Diethyl phthalate	1.1	J	1.6	J	µg/L	NA
PZ-139	2/3/2011	8260B	1,1-Dichloroethene	0.71	J	0.73	J	µg/L	NA
	2/3/2011	6020	Arsenic, Dissolved	0.001	J	0.0011	J	mg/L	NA
	2/3/2011	6020	Barium, Dissolved	0.018		0.019		mg/L	5.4
	2/3/2011	6010B	Boron, Dissolved	0.052		0.052		mg/L	NA
	2/3/2011	300.0	Bromide	0.28	J	0.27	J	mg/L	NA
	2/3/2011	6020	Cadmium, Dissolved	0.00013	J	0.00013	J	mg/L	NA
	2/3/2011	6010B	Calcium, Dissolved	67		70		mg/L	4.4
	2/3/2011	300.0	Chloride	30		30		mg/L	0.0
	2/3/2011	8260B	cis-1,2-Dichloroethene	11		11		µg/L	0.0
	2/3/2011	6020	Cobalt, Dissolved	0.00064	J	0.00061	J	mg/L	NA
	2/3/2011	6020	Copper, Dissolved	0.00081	J	0.00093	J	mg/L	NA
	2/3/2011	8270C	Di-n-octyl phthalate	0.37	U	2.2	J	µg/L	NA
	2/3/2011	8270C SIM	Di-n-octyl phthalate	10	U	2.2	J	µg/L	NA
	2/3/2011	6010B	Magnesium, Dissolved	31		33		mg/L	6.3
	2/3/2011	6020	Manganese, Dissolved	0.17		0.17		mg/L	0.0
	2/3/2011	6020	Molybdenum, Dissolved	0.0027		0.0043		mg/L	NA
	2/3/2011	6020	Nickel, Dissolved	0.0074		0.0076		mg/L	NA
	2/3/2011	300.0	Nitrate-NO3	5.9		5.9		mg/L	NA
	2/3/2011	300.0	Nitrite-N	0.32	J	0.35	J	mg/L	NA
	2/3/2011	6010B	Potassium, Dissolved	2.4		2.5		mg/L	NA
	2/3/2011	6010B	Sodium, Dissolved	120		120		mg/L	0.0
	2/3/2011	300.0	Sulfate	120		120		mg/L	NA
	2/3/2011	8260B	trans-1,2-Dichloroethene	0.54	J	0.56	J	µg/L	NA
	2/3/2011	8260B	Trichloroethene	190		200		µg/L	5.1
	2/3/2011	6020	Vanadium, Dissolved	0.0012	J	0.0013	J	mg/L	NA
PZ-154	1/28/2011	1625M	n-Nitrosodimethylamine	0.023		0.025		µg/L	NA
	1/28/2011	8270C	n-Nitrosodimethylamine	0.3	U	0.025		µg/L	NA

TABLE B-2
SUMMARY OF FIRST QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Primary Sample Result		Duplicate Sample Result		Units	RPD
RD-37	1/19/2011	9040B	pH	7.04	J	7.23	J	pH Units	2.7
RD-38B	2/2/2011	350.1	Ammonia-N	0.084	J	0.064	J	mg/L	NA
	2/2/2011	300.0	Fluoride	0.28	J	0.28	J	mg/L	NA
	2/2/2011	9040B	pH	7.3		7.28		pH Units	0.3
RD-45A	1/21/2011	1625M	n-Nitrosodimethylamine	0.0069		0.0065		µg/L	NA
RD-49B	1/21/2011	1625M	n-Nitrosodimethylamine	0.043		0.04		µg/L	7.2
RD-49C	1/21/2011	1625M	n-Nitrosodimethylamine	0.026		0.019		µg/L	NA
RD-58C	1/14/2011	350.1	Ammonia-N	0.15	J	0.14	J	mg/L	NA
	1/14/2011	8260B	cis-1,2-Dichloroethene	0.58	J	0.59	J	µg/L	NA
	1/14/2011	300.0	Fluoride	0.26	J	0.26	J	mg/L	NA
	1/14/2011	9040B	pH	7.9		7.85		pH Units	0.6
	1/14/2011	8260B	Vinyl chloride	0.59	J	0.61	J	µg/L	NA
RD-59B	1/12/2011	900.0	Gross Alpha, Dissolved	2.35	J	1.41	J	pCi/L	NA
	1/12/2011	908.0	Uranium, Dissolved	0.128	J	0.106	J	pCi/L	NA
	1/12/2011	908.0	Uranium-233/234, Dissolved	0.259	J	0.254	J	pCi/L	NA
RS-33	1/14/2011	1625M	n-Nitrosodimethylamine	0.17		0.25	J	µg/L	**38**
RS-34	1/28/2011	1625M	n-Nitrosodimethylamine	0.015		0.015		µg/L	NA
SH-02	1/21/2011	1625M	n-Nitrosodimethylamine	0.049		0.057		µg/L	15
SH-03	1/21/2011	1625M	n-Nitrosodimethylamine	0.1		0.13		µg/L	26
	2/2/2011	524.2	1,2,3-Trichloropropane	0.0086		0.0086		µg/L	NA
SH-04	1/21/2011	1625M	n-Nitrosodimethylamine	0.053		0.052		µg/L	1.9
SH-07	1/27/2011	1625M	n-Nitrosodimethylamine	0.052		0.012		µg/L	NA
SH-09	1/20/2011	1625M	n-Nitrosodimethylamine	0.0064		0.008		µg/L	NA
	2/7/2011	524.2	1,2,3-Trichloropropane	0.0035	J	0.0036	J	µg/L	NA
SH-11	1/20/2011	8270C	bis(2-Ethylhexyl) phthalate	0.86	J	1.1	J	µg/L	NA

RPDs are only calculated when an analyte is detected in both the primary and split samples at concentrations exceeding five times their RLs.
Results in bold exceed the acceptance criterion of 35.

NOTES AND ABBREVIATIONS
J - result is estimated
µg/L - micrograms per liter
µmhos/cm - micromhos per centimeter
mg/L - milligrams per liter
NA - not applicable
pCi/L - picoCuries per liter
RPD - relative percent difference
U - the result is not detected above the method detection limit or reporting limit

TABLE B-3
SUMMARY OF FIRST QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
ES-17	1/27/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.092	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989F
ES-17	1/27/2011	Primary Sample	6010B	Manganese	Primary Result	0.00062	mg/L	J	J	V	Result reported below the RL	24989F
ES-17	1/27/2011	Primary Sample	6010B	Potassium	Primary Result	0.92	mg/L	J	J	V	Result reported below the RL	24989F
ES-17	1/27/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	0.9	mg/L	J	J	V	Result reported below the RL	24989F
ES-17	1/27/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	5	ug/L	J	J	V	Result reported below the RL	24989F
ES-17	1/27/2011	Primary Sample	8260B	Methylene chloride	Primary Result	50	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24989F
ES-26	1/18/2011	Field Duplicate	6010B	Potassium	Primary Result	1.9	mg/L	J	J	V	Result reported below the RL	24920A
ES-26	1/18/2011	Field Duplicate	6010B	Potassium, Dissolved	Primary Result	1.9	mg/L	J	J	V	Result reported below the RL	24920A
ES-26	1/18/2011	Field Duplicate	350.1	Ammonia-N	Primary Result	0.16	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24920A
ES-26	1/18/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.25	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24920A
ES-26	1/18/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	1.9	mg/L	J	J	V	Result reported below the RL	24920A
ES-26	1/18/2011	Primary Sample	6010B	Potassium	Primary Result	1.9	mg/L	J	J	V	Result reported below the RL	24920A
ES-26	1/18/2011	Primary Sample	9040B	pH	Primary Result	7.22	pH Units	HTV	J	V	Holding times were exceeded	24920A
ES-26	1/18/2011	Field Duplicate	9040B	pH	Primary Result	7.25	pH Units	HTV	J	V	Holding times were exceeded	24920A
ES-27	1/17/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	370	ug/L		J	V	Surrogate recovery was outside QC limits.	24910A
ES-27	1/17/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.13	mg/L	J	J	V	Result reported below the RL	24910A
ES-27	1/17/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
ES-27	1/17/2011	Primary Sample	9040B	pH	Primary Result	7.33	pH Units	HTV	J	V	Holding times were exceeded	24910A
FDP-835	1/14/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

TABLE B-3
SUMMARY OF FIRST QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
FDP-835	1/14/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-835	1/14/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
FDP-890	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	210	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
FDP-890	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.39	ug/L	J	J	V	Result reported below the RL	24891C
HAR-04	1/25/2011	Primary Sample	8015B	Gasoline Range Organics (C8-C11)	Primary Result	0.075	mg/L	U	R	V	MS/MSD recovery was poor or RPD was high	24963B
HAR-04	1/25/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	24963B
HAR-04	1/25/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.17	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963B
HAR-04	1/25/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	1.2	ug/L		J	V	MS/MSD recovery was poor or RPD was high	24963B
HAR-04	1/25/2011	Primary Sample	314.0	Perchlorate	Primary Result	1.5	ug/L	J	J	V	Result reported below the RL	24963B
HAR-04	1/25/2011	Primary Sample	9040B	pH	Primary Result	6.85	pH Units	HTV	J	V	Holding times were exceeded	24963B
HAR-01	2/1/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	37	mg/L	HTV	J	V	Holding times were exceeded	24989L
HAR-01	2/1/2011	Primary Sample	8260B	Chloroform	Primary Result	0.23	ug/L	J	J	V	Result reported below the RL	24989L
HAR-01	2/1/2011	Primary Sample	9040B	pH	Primary Result	6.9	pH Units	HTV	J	V	Holding times were exceeded	24989L
HAR-03	1/25/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.14	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963B
HAR-03	1/25/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.7	ug/L	J	J	V	Result reported below the RL	24963B
HAR-03	1/25/2011	Primary Sample	9040B	pH	Primary Result	6.71	pH Units	HTV	J	V	Holding times were exceeded	24963B
HAR-05	1/24/2011	Primary Sample	300.0	Fluoride	Primary Result	0.3	mg/L	J	J	V	Result reported below the RL	24929C
HAR-05	1/24/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	2.3	mg/L	J	J	V	Result reported below the RL	24929C
HAR-05	1/24/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.058	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24929C
HAR-05	1/24/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.67	ug/L	J	J	V	Result reported below the RL	24929C
HAR-05	1/24/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.75	ug/L	U	UJ	V	LCS/LCSD RPD was high	24929C
HAR-19	1/20/2011	Field Duplicate	300.0	Fluoride	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24941A
HAR-19	1/20/2011	Field Duplicate	6010B	Potassium, Dissolved	Primary Result	4.9	mg/L	J	J	V	Result reported below the RL	24941A
HAR-19	1/20/2011	Field Duplicate	350.1	Ammonia-N	Primary Result	0.065	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24941A
HAR-19	1/20/2011	Field Duplicate	8015B	Kerosene Range (C15-C20)	Primary Result	0.048	mg/L	J	J	V	Result reported below the RL	24941A
HAR-19	1/20/2011	Field Duplicate	8260B	cis-1,2-Dichloroethene	Primary Result	130	ug/L		J	V	Surrogate recovery was outside QC limits.	24941A
HAR-19	1/20/2011	Field Duplicate	8260B	1,1-Dichloroethene	Primary Result	0.37	ug/L	J	J	V	Result reported below the RL	24941A

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HAR-19	1/20/2011	Field Duplicate	8260B	Vinyl chloride	Primary Result	13	ug/L		J	V	Surrogate recovery was outside QC limits.	24941A
HAR-19	1/20/2011	Field Duplicate	8260B	trans-1,2-Dichloroethene	Primary Result	130	ug/L		J	V	Surrogate recovery was outside QC limits.	24941A
HAR-19	1/20/2011	Field Duplicate	8260B	Trichloroethene	Primary Result	60	ug/L		J	V	Surrogate recovery was outside QC limits.	24941A
HAR-19	1/20/2011	Primary Sample	300.0	Fluoride	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24941A
HAR-19	1/20/2011	Field Duplicate	9040B	pH	Primary Result	7.03	pH Units	HTV	J	V	Holding times were exceeded	24941A
HAR-19	1/20/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.076	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24941A
HAR-19	1/20/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	4.9	mg/L	J	J	V	Result reported below the RL	24941A
HAR-19	1/20/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	Primary Result	0.045	mg/L	J	J	V	Result reported below the RL	24941A
HAR-19	1/20/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.086	mg/L	J	J	V	Result reported below the RL	24941A
HAR-19	1/20/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.39	ug/L	J	J	V	Result reported below the RL	24941A
HAR-19	1/20/2011	Primary Sample	9040B	pH	Primary Result	7.05	pH Units	HTV	J	V	Holding times were exceeded	24941A
HAR-20	1/20/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.064	mg/L	J	J	V	Result reported below the RL	24941A
HAR-20	1/20/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.18	mg/L	J	J	V	Result reported below the RL	24941A
HAR-20	1/20/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.073	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24941A
HAR-20	1/20/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	Primary Result	0.1	mg/L	J	J	V	Result reported below the RL	24941A
HAR-20	1/20/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	27	ug/L		J	V	Surrogate recovery was outside QC limits.	24941A
HAR-20	1/20/2011	Primary Sample	8260B	Trichloroethene	Primary Result	18	ug/L		J	V	Surrogate recovery was outside QC limits.	24941A
HAR-20	1/20/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	1.8	ug/L		J	V	Surrogate recovery was outside QC limits.	24941A
HAR-20	1/20/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	2.5	ug/L		J	V	Surrogate recovery was outside QC limits.	24941A
HAR-20	1/20/2011	Primary Sample	300.0	Fluoride	Primary Result	0.28	mg/L	J	J	V	Result reported below the RL	24941A
HAR-21	1/26/2011	Primary Sample	300.0	Fluoride	Primary Result	0.41	mg/L	J	J	V	Result reported below the RL	25012E
HAR-21	1/26/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.27	ug/L	J	J	V	Result reported below the RL	25012E
HAR-21	1/26/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.13	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	25012E
HAR-21	1/26/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	Primary Result	0.033	mg/L	J	J	V	Result reported below the RL	25012E
HAR-21	1/26/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.75	ug/L	J	J	V	Result reported below the RL	25012E
HAR-21	1/26/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	1.3	ug/L	J	J	V	Result reported below the RL	25012E
HAR-21	1/26/2011	Primary Sample	8315A	Formaldehyde	Primary Result	21	ug/L	J	J	V	Result reported below the RL	25012E
HAR-23	1/20/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.2	ug/L	J	J	V	Result reported below the RL	24941A
HAR-23	1/20/2011	Primary Sample	300.0	Fluoride	Primary Result	0.41	mg/L	J	J	V	Result reported below the RL	24941A
HAR-23	1/20/2011	Primary Sample	9040B	pH	Primary Result	7.12	pH Units	HTV	J	V	Holding times were exceeded	24941A
HAR-25	1/17/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.09	mg/L	J	J	V	Result reported below the RL	24910A
HAR-25	1/17/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.84	ug/L	J	J	V	Result reported below the RL	24910A
HAR-25	1/17/2011	Primary Sample	9040B	pH	Primary Result	7.03	pH Units	HTV	J	V	Holding times were exceeded	24910A
HAR-25	1/17/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.93	ug/L	J	J	V	Result reported below the RL	24910A
HAR-25	1/17/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
HAR-26	1/20/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.069	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24941A
HAR-26	1/20/2011	Primary Sample	9040B	pH	Primary Result	8.18	pH Units	HTV	J	V	Holding times were exceeded	24941A
HAR-27	1/19/2011	Primary Sample	6010B	Potassium	Primary Result	2.1	mg/L	J	J	V	Result reported below the RL	24963A
HAR-27	1/19/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	1.8	mg/L	J	J	V	Result reported below the RL	24963A

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HAR-27	1/19/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	Primary Result	0.055	mg/L	J	J	V	Result reported below the RL	24963A
HAR-27	1/19/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.048	mg/L	J	J	V	Result reported below the RL	24963A
HAR-27	1/19/2011	Primary Sample	6010B	Zinc	Primary Result	0.0065	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
HAR-27	1/19/2011	Primary Sample	6010B	Zinc, Dissolved	Primary Result	0.005	mg/L	J	J	V	Result reported below the RL	24963A
HAR-27	1/19/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24963A
HAR-27	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
HAR-28	1/19/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.063	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
HAR-28	1/19/2011	Primary Sample	6010B	Iron, Dissolved	Primary Result	0.046	mg/L	J	J	V	Result reported below the RL	24963A
HAR-28	1/19/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.0075	mg/L	J	J	V	Result reported below the RL	24963A
HAR-28	1/19/2011	Primary Sample	6010B	Zinc	Primary Result	0.0068	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
HAR-28	1/19/2011	Primary Sample	6010B	Zinc, Dissolved	Primary Result	0.005	mg/L	J	J	V	Result reported below the RL	24963A
HAR-28	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
HAR-28	1/19/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.97	ug/L	J	J	V	Result reported below the RL	24963A
HAR-28	1/19/2011	Primary Sample	300.0	Fluoride	Primary Result	0.21	mg/L	J	J	V	Result reported below the RL	24963A
HAR-28	1/19/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.23	mg/L	J	J	V	Result reported below the RL	24963A
HAR-29	1/17/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.18	mg/L	J	J	V	Result reported below the RL	24910A
HAR-29	1/17/2011	Primary Sample	300.0	Fluoride	Primary Result	0.28	mg/L	J	J	V	Result reported below the RL	24910A
HAR-29	1/17/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.00096	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
HAR-29	1/17/2011	Primary Sample	6010B	Potassium	Primary Result	3.9	mg/L	J	J	V	Result reported below the RL	24910A
HAR-29	1/17/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	3.9	mg/L	J	J	V	Result reported below the RL	24910A
HAR-29	1/17/2011	Primary Sample	6010B	Manganese	Primary Result	0.0018	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
HAR-29	1/17/2011	Primary Sample	8260B	Acetone	Primary Result	10	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Surrogate recovery was outside QC limits.	24910A
HAR-29	1/17/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.84	ug/L	J	J	V	Result reported below the RL	24910A
HAR-29	1/17/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.34	ug/L	J	J	V	Result reported below the RL	24910A
HAR-29	1/17/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
HAR-29	1/17/2011	Primary Sample	9040B	pH	Primary Result	7.02	pH Units	HTV	J	V	Holding times were exceeded	24910A
HAR-30	1/28/2011	Primary Sample	300.0	Fluoride	Primary Result	0.46	mg/L	J	J	V	Result reported below the RL	24989I
HAR-30	1/28/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.14	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989I
HAR-30	1/28/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.24	mg/L	J	J	V	Result reported below the RL	24989I
HAR-30	1/28/2011	Primary Sample	6010B	Potassium	Primary Result	1.8	mg/L	J	J	V	Result reported below the RL	24989I
HAR-30	1/28/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	1.9	mg/L	J	J	V	Result reported below the RL	24989I
HAR-30	1/28/2011	Primary Sample	8315A	Formaldehyde	Primary Result	18	ug/L	J	J	V	Result reported below the RL	24989I
HAR-30	2/10/2011	Primary Sample	9012	Cyanides	Primary Result	0.003	mg/L	J	J	IV	Result reported below the RL	24989Q
HAR-30	2/10/2011	Split Sample	4500	Sulfide	Primary Result	0.42	mg/L	M2	J	IV	MS recovery was poor	25067B
HAR-31	1/19/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.061	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
HAR-31	1/19/2011	Primary Sample	6010B	Manganese	Primary Result	0.0006	mg/L	J	J	V	Result reported below the RL	24963A
HAR-31	1/19/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.00047	mg/L	J	J	V	Result reported below the RL	24963A
HAR-31	1/19/2011	Primary Sample	6010B	Potassium	Primary Result	1	mg/L	J	J	V	Result reported below the RL	24963A

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HAR-31	1/19/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	0.98	mg/L	J	J	V	Result reported below the RL	24963A
HAR-31	1/19/2011	Primary Sample	6010B	Zinc	Primary Result	0.0046	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
HAR-31	1/19/2011	Primary Sample	6010B	Zinc, Dissolved	Primary Result	0.0065	mg/L	J	J	V	Result reported below the RL	24963A
HAR-31	1/19/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.36	ug/L	J	J	V	Result reported below the RL	24963A
HAR-31	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
HAR-31	1/19/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.53	ug/L	J	J	V	Result reported below the RL	24963A
HAR-32	1/17/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	24910A
HAR-32	1/17/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	1.9	ug/L	J	J	V	Result reported below the RL	24910A
HAR-32	1/17/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	1.8	ug/L	J	J	V	Result reported below the RL	24910A
HAR-32	1/17/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
HAR-32	1/17/2011	Primary Sample	9040B	pH	Primary Result	7.33	pH Units	HTV	J	V	Holding times were exceeded	24910A
HAR-33	1/17/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24910A
HAR-33	1/17/2011	Primary Sample	8260B	Acetone	Primary Result	10	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24910A
HAR-33	1/17/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	1.1	ug/L	J	J	V	Result reported below the RL	24910A
HAR-33	1/17/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
HAR-33	1/17/2011	Primary Sample	9040B	pH	Primary Result	7.47	pH Units	HTV	J	V	Holding times were exceeded	24910A
PZ-041	1/13/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.0079	mg/L	JB	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.0012	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Cadmium, Dissolved	Primary Result	0.000084	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Chromium	Primary Result	0.0024	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Copper, Dissolved	Primary Result	0.001	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
PZ-041	1/13/2011	Primary Sample	6020	Lead	Primary Result	0.0014	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Silver	Primary Result	0.000059	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Vanadium	Primary Result	0.0043	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0019	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Antimony	Primary Result	0.00024	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Antimony, Dissolved	Primary Result	0.00023	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Arsenic	Primary Result	0.0019	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Cadmium	Primary Result	0.00023	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00024	mg/L	J	J	V	Result reported below the RL	24891B
PZ-041	1/13/2011	Primary Sample	6020	Nickel, Dissolved	Primary Result	0.0028	mg/L	B	U	V	Presumed contamination from preparation (method) and trip blank	24891B
PZ-041	1/13/2011	Primary Sample	6020	Thallium	Primary Result	0.000031	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
PZ-041	1/13/2011	Primary Sample	6020	Thallium, Dissolved	Primary Result	0.00002	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
PZ-041	1/13/2011	Primary Sample	6020	Tin	Primary Result	0.00063	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24891B
PZ-041	1/13/2011	Primary Sample	6020	Zinc, Dissolved	Primary Result	0.0085	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
PZ-060	1/28/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	Primary Result	1.1	ug/L	J	J	IV	Result reported below the RL	24989I
PZ-060	1/28/2011	Field Duplicate	8270C	Diethyl phthalate	Primary Result	1.6	ug/L	J	J	IV	Result reported below the RL	24989I

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
PZ-060	1/28/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.1	mg/L	J	J	V	Result reported below the RL	24989I
PZ-060	1/28/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.26	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989I
PZ-060	1/28/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.25	ug/L	J	J	V	Result reported below the RL	24989I
PZ-060	1/28/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	Primary Result	0.96	ug/L	J	J	IV	Result reported below the RL	24989I
PZ-060	1/28/2011	Primary Sample	8270C	Diethyl phthalate	Primary Result	1.1	ug/L	J	J	IV	Result reported below the RL	24989I
PZ-060	1/28/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989I
PZ-060	1/28/2011	Split Sample	8270C	Diethyl phthalate	Primary Result	5	ug/L	J	J	IV	Result reported below the RL	25027C
PZ-076	1/18/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.27	ug/L	J	J	V	Result reported below the RL	24920A
PZ-076	1/18/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.66	ug/L	J	J	V	Result reported below the RL	24920A
PZ-077	1/20/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	J	J	V	Result reported below the RL	24941A
PZ-139	2/3/2011	Field Duplicate	300.0	Fluoride	Primary Result	1.1	mg/L		U	V	Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Field Duplicate	6020	Arsenic, Dissolved	Primary Result	0.0011	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	6020	Cobalt, Dissolved	Primary Result	0.00061	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	6020	Copper, Dissolved	Primary Result	0.00093	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	300.0	Bromide	Primary Result	0.27	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	300.0	Nitrite-N	Primary Result	0.35	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	6020	Cadmium, Dissolved	Primary Result	0.00013	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	6020	Vanadium, Dissolved	Primary Result	0.0013	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	6020	Zinc, Dissolved	Primary Result	0.0048	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989O
PZ-139	2/3/2011	Field Duplicate	8260B	1,1-Dichloroethene	Primary Result	0.73	ug/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	8260B	trans-1,2-Dichloroethene	Primary Result	0.56	ug/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	8270C	Di-n-octyl phthalate	Primary Result	2.2	ug/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	8270C SIM	Di-n-butyl phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Field Duplicate	8270C SIM	bis(2-Ethylhexyl) phthalate	Primary Result	10	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Field Duplicate	8270C SIM	Di-n-octyl phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Field Duplicate	8270C SIM	Diethyl phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Field Duplicate	8270C SIM	Naphthalene	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Field Duplicate	8315A	Formaldehyde	Primary Result	50	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Primary Sample	300.0	Bromide	Primary Result	0.28	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	300.0	Fluoride	Primary Result	1.1	mg/L		U	V	Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Primary Sample	300.0	Nitrite-N	Primary Result	0.32	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.001	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	6020	Copper, Dissolved	Primary Result	0.00081	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	6020	Thallium, Dissolved	Primary Result	0.000024	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0012	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	6020	Cadmium, Dissolved	Primary Result	0.00013	mg/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00064	mg/L	J	J	V	Result reported below the RL	24989O

TABLE B-3
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
PZ-139	2/3/2011	Primary Sample	6020	Zinc, Dissolved	Primary Result	0.0045	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989O
PZ-139	2/3/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.71	ug/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.54	ug/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	8270C SIM	2-Methylnaphthalene	Primary Result	0.0062	ug/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	Primary Result	10	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	Primary Result	10	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Primary Sample	8270C SIM	Diethyl phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Primary Sample	8270C SIM	Naphthalene	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-139	2/3/2011	Primary Sample	8270C SIM	Phenanthrene	Primary Result	0.01	ug/L	J	J	V	Result reported below the RL	24989O
PZ-139	2/3/2011	Field Duplicate	7196A	Hexavalent Chromium	Primary Result	0.004	mg/L	UHTV	UJ	V	Holding times were exceeded	24989O
PZ-139	2/3/2011	Field Duplicate	7196A	Hexavalent Chromium, Dissolved	Primary Result	0.004	mg/L	UHTV	UJ	V	Holding times were exceeded	24989O
PZ-139	2/3/2011	Primary Sample	7196A	Hexavalent Chromium	Primary Result	0.004	mg/L	UHTV	UJ	V	Holding times were exceeded	24989O
PZ-139	2/3/2011	Primary Sample	7196A	Hexavalent Chromium, Dissolved	Primary Result	0.0043	mg/L	JHTV	UJ	V	Presumed contamination as indicated by the field blank or equipment rinse blank results; Holding time was exceeded	24989O
PZ-140	1/24/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.75	ug/L	U	UJ	V	LCS/LCSD RPD was high	24929C
PZ-140	1/24/2011	Primary Sample	8270C	Diethyl phthalate	Primary Result	0.73	ug/L	J	J	V	Result reported below the RL	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	1-Methyl naphthalene	Primary Result	0.0057	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Anthracene	Primary Result	0.014	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Benzo(a)anthracene	Primary Result	0.0032	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Benzo(a)pyrene	Primary Result	0.0051	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	2-Methylnaphthalene	Primary Result	0.0051	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Acenaphthene	Primary Result	0.011	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Acenaphthylene	Primary Result	0.0099	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Benzo(b)fluoranthene	Primary Result	0.0034	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Benzo(ghi)perylene	Primary Result	0.0035	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Benzo(k)fluoranthene	Primary Result	0.005	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	Primary Result	10	ug/L	J B HTV	UJ	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination from field blank or equipment rinse blank; Holding time was exceeded.	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	Primary Result	10	ug/L	J B HTV	UJ	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination from field blank or equipment rinse blank; Holding time was exceeded; LCS/LCSD %R was not within control limits.	24929C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
PZ-140	1/24/2011	Primary Sample	8270C SIM	Dibenzo(a,h)anthracene	Primary Result	0.0048	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Fluorene	Primary Result	0.019	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Indeno(1,2,3-cd)pyrene	Primary Result	0.015	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	n-Nitrosodimethylamine	Primary Result	0.13	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Pyrene	Primary Result	0.0081	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/25/2011	Primary Sample	300.0	Bromide	Primary Result	0.36	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/24/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	Primary Result	10	ug/L	J B HTV	UJ	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination from field blank or equipment rinse blank; Holding time was exceeded.	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	Primary Result	10	ug/L	JHTV	UJ	V	Presumed contamination as indicated by the field blank or equipment rinse blank results; Holding time was exceeded; LCS/LCSD %R was not within control limits	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Chrysene	Primary Result	0.0032	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Diethyl phthalate	Primary Result	10	ug/L	J B HTV	UJ	V	Presumed contamination as indicated by the preparation (method) blank results; Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Dimethyl phthalate	Primary Result	0.018	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Fluoranthene	Primary Result	0.0048	ug/L	JHTV	J	V	Result reported below the RL	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Naphthalene	Primary Result	10	ug/L	JHTV	UJ	V	Presumed contamination as indicated by the field blank or equipment rinse blank results; Holding time was exceeded	24929C
PZ-140	1/24/2011	Primary Sample	8270C SIM	Phenanthrene	Primary Result	0.0097	ug/L	UHTV	UJ	V	Holding times were exceeded	24929C
PZ-140	1/25/2011	Primary Sample	300.0	Fluoride	Primary Result	0.4	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/25/2011	Primary Sample	6010B	Boron, Dissolved	Primary Result	0.047	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/25/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.00069	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/25/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00076	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/25/2011	Primary Sample	6020	Copper, Dissolved	Primary Result	0.00063	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/25/2011	Primary Sample	6020	Selenium, Dissolved	Primary Result	0.00077	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/25/2011	Primary Sample	6010B	Iron, Dissolved	Primary Result	0.022	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/25/2011	Primary Sample	6020	Cadmium, Dissolved	Primary Result	0.000062	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/25/2011	Primary Sample	6020	Thallium, Dissolved	Primary Result	0.000032	mg/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24963B
PZ-140	1/25/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0011	mg/L	J	J	V	Result reported below the RL	24963B
PZ-140	1/25/2011	Primary Sample	6020	Zinc, Dissolved	Primary Result	0.0027	mg/L	J	J	V	Result reported below the RL	24963B
PZ-141	2/3/2011	Primary Sample	300.0	Bromide	Primary Result	0.18	mg/L	J	J	V	Result reported below the RL	24989O
PZ-141	2/3/2011	Primary Sample	300.0	Fluoride	Primary Result	0.34	mg/L	J	J	V	Result reported below the RL	24989O
PZ-141	2/3/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	1	mg/L	J	J	V	Result reported below the RL	24989O
PZ-141	2/3/2011	Primary Sample	8260B	2-Chloroethylvinyl ether	Primary Result	0.31	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	24989O
PZ-141	2/3/2011	Primary Sample	8260B	Methyl tert-butyl ether	Primary Result	0.25	ug/L	U	UJ	V	MS/MSD recovery was poor or RPD was high	24989O
PZ-141	2/3/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.16	ug/L	J	J	V	Result reported below the RL	24989O
PZ-141	2/3/2011	Primary Sample	8270C	Di-n-octyl phthalate	Primary Result	2.2	ug/L	J	J	V	Result reported below the RL	24989O
PZ-141	2/3/2011	Primary Sample	8270C SIM	2-Methylnaphthalene	Primary Result	0.0051	ug/L	J	J	V	Result reported below the RL	24989O
PZ-141	2/3/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	Primary Result	9.8	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989O
PZ-141	2/3/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	Primary Result	9.8	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989O

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
PZ-141	2/3/2011	Primary Sample	8270C SIM	Diethyl phthalate	Primary Result	9.8	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-141	2/3/2011	Primary Sample	8270C SIM	Naphthalene	Primary Result	9.8	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-141	2/3/2011	Split Sample	300.0	Bromide	Primary Result	0.36	mg/L	J	J	V	Result reported below the RL	25099A
PZ-141	2/3/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	Primary Result	9.8	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-141	2/3/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	Primary Result	9.8	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989O
PZ-141	2/3/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989O
PZ-141	2/3/2011	Split Sample	300.0	Fluoride	Primary Result	0.45	mg/L	J	J	V	Result reported below the RL	25099A
PZ-141	2/3/2011	Split Sample	300.0	Nitrate-NO3	Primary Result	0.32	mg/L	J	J	V	Result reported below the RL	25099A
PZ-141	2/3/2011	Split Sample	8260B	Chloroform	Primary Result	1	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	25099A
PZ-141	2/3/2011	Split Sample	8270C	2-Nitrophenol	Primary Result	3.4	ug/L	U	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/3/2011	Split Sample	8270C	2-Chlorophenol	Primary Result	2.9	ug/L	U	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/3/2011	Split Sample	8270C	Benzidine	Primary Result	9.7	ug/L	U,L6	R	V	LCS/LCSD %R and RPD was not within control limits	25099A
PZ-141	2/3/2011	Split Sample	8270C	Benzo(k)fluoranthene	Primary Result	2.4	ug/L	U	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/3/2011	Split Sample	8270C	Butyl benzyl phthalate	Primary Result	3.9	ug/L	U	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/3/2011	Split Sample	8270C	bis(2-Chloroisopropyl) ether	Primary Result	2.4	ug/L	U,C	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/3/2011	Split Sample	8270C	Di-n-octyl phthalate	Primary Result	3.4	ug/L	U	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/3/2011	Split Sample	8270C	Phenol	Primary Result	1.9	ug/L	U	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/3/2011	Split Sample	8270C	Isophorone	Primary Result	2.9	ug/L	U	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/3/2011	Split Sample	8270C	n-Nitrosodi-n-propylamine	Primary Result	3.4	ug/L	U	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/3/2011	Split Sample	8270C	Pentachlorophenol	Primary Result	3.4	ug/L	U	UJ	V	LCS/LCSD RPD was high	25099A
PZ-141	2/4/2011	Primary Sample	6010B	Aluminum, Dissolved	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.0021	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00024	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Primary Sample	6020	Copper, Dissolved	Primary Result	0.0007	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Primary Sample	6020	Selenium, Dissolved	Primary Result	0.0013	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.032	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Primary Sample	6020	Nickel, Dissolved	Primary Result	0.0019	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0022	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	Primary Result	0.074	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Split Sample	6020	Cobalt, Dissolved	Primary Result	0.00036	mg/L	J	J	V	Result reported below the RL	25067A
PZ-141	2/4/2011	Split Sample	6010B	Iron, Dissolved	Primary Result	0.022	mg/L	B,J	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	6020	Arsenic, Dissolved	Primary Result	0.0011	mg/L	J	J	V	Result reported below the RL	25067A
PZ-141	2/4/2011	Split Sample	6020	Copper, Dissolved	Primary Result	0.0015	mg/L	J	J	V	Result reported below the RL	25067A
PZ-141	2/4/2011	Split Sample	6020	Vanadium, Dissolved	Primary Result	0.0024	mg/L	J	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	6020	Nickel, Dissolved	Primary Result	0.0011	mg/L	J	J	V	Result reported below the RL	25067A
PZ-141	2/4/2011	Split Sample	6020	Selenium, Dissolved	Primary Result	0.0014	mg/L	J	J	V	Result reported below the RL	25067A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
PZ-141	2/4/2011	Split Sample	8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	Primary Result	2.4	pg/L	B J	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25067A
PZ-141	2/4/2011	Split Sample	8290	1,2,3,4,7,8-Hexachlorodibenzofuran	Primary Result	1.7	pg/L	B J	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25067A
PZ-141	2/4/2011	Split Sample	8290	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	Primary Result	1.7	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	8290	1,2,3,6,7,8-Hexachlorodibenzofuran	Primary Result	1.8	pg/L	B J	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	8290	2,3,4,6,7,8-Hexachlorodibenzofuran	Primary Result	1.7	pg/L	B J	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25067A
PZ-141	2/4/2011	Split Sample	8290	Heptachlorodibenzo-p-dioxins	Primary Result	3.7	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	8290	Heptachlorodibenzofurans	Primary Result	3.8	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	8290	Hexachlorodibenzo-p-dioxins	Primary Result	4.2	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	Primary Result	2.4	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25067A
PZ-141	2/4/2011	Split Sample	8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran	Primary Result	1.4	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25067A
PZ-141	2/4/2011	Split Sample	8290	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	Primary Result	1.5	pg/L	B J	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25067A
PZ-141	2/4/2011	Split Sample	8290	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	Primary Result	1	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25067A
PZ-141	2/4/2011	Split Sample	8290	2,3,4,7,8-Pentachlorodibenzofuran	Primary Result	0.98	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25067A
PZ-141	2/4/2011	Split Sample	8290	Hexachlorodibenzofurans	Primary Result	5.2	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	8290	Octachlorodibenzo-p-dioxin	Primary Result	12	pg/L	B J	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	8290	Octachlorodibenzofuran	Primary Result	4	pg/L	B J	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25067A
PZ-141	2/4/2011	Primary Sample	7196A	Hexavalent Chromium	Primary Result	0.006	mg/L	J	J	V	Result reported below the RL	25012H
PZ-141	2/4/2011	Split Sample	8290	Pentachlorodibenzofurans	Primary Result	0.98	pg/L	J, Q, B	U	V	Presumed contamination from preparation (method) and trip blank	25067A
PZ-141	2/4/2011	Split Sample	7196A	Hexavalent Chromium	Primary Result	0.005	mg/L	U,H3	R	V	Holding times were exceeded	25067A
PZ-141	2/4/2011	Split Sample	7196A	Hexavalent Chromium, Dissolved	Primary Result	0.005	mg/L	U,H3	R	V	Holding times were exceeded	25067A
PZ-144	2/1/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	23	mg/L	HTV	J	V	Holding times were exceeded	24989L

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PZ-144	2/1/2011	Primary Sample	300.0	Nitrite-N	Primary Result	0.16	mg/L	UHTV	UJ	V	Holding times were exceeded	24989L
PZ-144	2/1/2011	Primary Sample	300.0	Phosphate	Primary Result	0.57	mg/L	UHTV	UJ	V	Holding times were exceeded	24989L
PZ-144	2/1/2011	Primary Sample	6020	Cadmium, Dissolved	Primary Result	0.00007	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	6020	Chromium, Dissolved	Primary Result	0.00055	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	6020	Nickel, Dissolved	Primary Result	0.00059	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.005	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	Primary Result	0.093	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.0047	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.000024	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	6020	Selenium, Dissolved	Primary Result	0.0033	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.089	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.19	mg/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	8260B	2-Hexanone	Primary Result	4.2	ug/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	8260B	Methyl tert-butyl ether	Primary Result	0.25	ug/L	U	UJ	V	MS/MSD recovery was poor or RPD was high	24989L
PZ-144	2/1/2011	Primary Sample	8270C	Diethyl phthalate	Primary Result	0.42	ug/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	8270C SIM	2-Methylnaphthalene	Primary Result	0.0054	ug/L	J	J	V	Result reported below the RL	24989L
PZ-144	2/1/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989L
PZ-144	2/1/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	Primary Result	10	ug/L	J	UJ	V	Presumed contamination as indicated by the field blank or equipment rinse blank results; LCS/LCSD %R was not within control limits	24989L
PZ-144	2/1/2011	Primary Sample	8270C SIM	Diethyl phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989L
PZ-144	2/1/2011	Primary Sample	8270C SIM	Naphthalene	Primary Result	10	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989L
PZ-144	2/1/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989L
PZ-144	2/1/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	Primary Result	10	ug/L	JB	UJ	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination from field blank or equipment rinse blank; LCS/LCSD %R was not within control limits.	24989L
PZ-144	2/1/2011	Primary Sample	7196A	Hexavalent Chromium	Primary Result	0.004	mg/L	UHTV	R	V	Holding times were exceeded	24989L
PZ-144	2/1/2011	Primary Sample	7196A	Hexavalent Chromium, Dissolved	Primary Result	0.004	mg/L	UHTV	R	V	Holding times were exceeded	24989L
PZ-149	1/27/2011	Primary Sample	8260B	2-Chloroethylvinyl ether	Primary Result	0.31	ug/L	UHTV	UJ	V	LCS/LCSD RPD was high	24989F
PZ-149	1/27/2011	Primary Sample	8260B	Methylene chloride	Primary Result	1	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination from field blank or equipment rinse blank; Presumed contamination as indicated by the trip blank Results	24989F
PZ-149	1/27/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.2	ug/L	J	J	V	Result reported below the RL	24989F
PZ-149	1/27/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	1.8	ug/L	J	J	V	Result reported below the RL	24989F
PZ-149	1/27/2011	Primary Sample	8270C SIM	1-Methyl naphthalene	Primary Result	0.0064	ug/L	J	J	V	Result reported below the RL	24989F
PZ-149	1/27/2011	Primary Sample	8270C SIM	2-Methylnaphthalene	Primary Result	10	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989F

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PZ-149	1/27/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	Primary Result	10	ug/L	JB	UJ	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination from field blank or equipment rinse blank; LCS/LCSD %R was not within control limits.	24989F
PZ-149	1/27/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	Primary Result	3.5	ug/L	JB	J	V	Result reported below the RL	24989F
PZ-149	1/27/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989F
PZ-149	1/27/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	Primary Result	10	ug/L	JB	UJ	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination from field blank or equipment rinse blank; LCS/LCSD %R was not within control limits.	24989F
PZ-149	1/27/2011	Primary Sample	8270C SIM	Diethyl phthalate	Primary Result	7.8	ug/L	JB	J	V	Result reported below the RL	24989F
PZ-149	1/27/2011	Primary Sample	8270C SIM	Naphthalene	Primary Result	10	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989F
RD-02	1/27/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	3.3	ug/L	J	J	V	Result reported below the RL	24989F
RD-02	1/27/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	1.1	ug/L	J	J	V	Result reported below the RL	24989F
RD-03	2/1/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.08	mg/L	J	J	V	Result reported below the RL	24989L
RD-03	2/1/2011	Primary Sample	300.0	Fluoride	Primary Result	0.4	mg/L	J	J	V	Result reported below the RL	24989L
RD-03	2/1/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.19	mg/L	UHTV	UJ	V	Holding times were exceeded	24989L
RD-03	2/1/2011	Primary Sample	9040B	pH	Primary Result	7.3	pH Units	HTV	J	V	Holding times were exceeded	24989L
PZ-154	1/28/2011	Primary Sample	300.0	Bromide	Primary Result	0.25	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.0004	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	6010B	Iron, Dissolved	Primary Result	0.089	mg/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989I
PZ-154	1/28/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.002	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	6020	Copper, Dissolved	Primary Result	0.00086	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	6020	Silver, Dissolved	Primary Result	0.000035	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	6020	Thallium, Dissolved	Primary Result	0.000056	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0024	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	6020	Selenium, Dissolved	Primary Result	0.0016	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	Primary Result	0.062	mg/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	14	ug/L	J	J	V	Result reported below the RL	24989I
PZ-154	1/28/2011	Primary Sample	8260B	Methylene chloride	Primary Result	20	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989I
PZ-154	1/28/2011	Primary Sample	8270C	Diethyl phthalate	Primary Result	0.46	ug/L	J	J	V	Result reported below the RL	24989I
PZ-158	1/31/2011	Primary Sample	300.0	Bromide	Primary Result	0.49	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	6020	Cadmium, Dissolved	Primary Result	0.00013	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	6020	Chromium, Dissolved	Primary Result	0.002	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	14	mg/L	HTV	J	V	Holding times were exceeded	25027E
PZ-158	1/31/2011	Primary Sample	300.0	Nitrite-N	Primary Result	0.16	mg/L	UHTV	UJ	V	Holding times were exceeded	25027E
PZ-158	1/31/2011	Primary Sample	300.0	Phosphate	Primary Result	0.57	mg/L	UHTV	UJ	V	Holding times were exceeded	25027E
PZ-158	1/31/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.003	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	6020	Lead, Dissolved	Primary Result	0.0004	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	6020	Silver, Dissolved	Primary Result	0.000029	mg/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	25027E
PZ-158	1/31/2011	Primary Sample	6020	Thallium, Dissolved	Primary Result	0.00003	mg/L	J	J	V	Result reported below the RL	25027E

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PZ-158	1/31/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0043	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.22	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	6020	Selenium, Dissolved	Primary Result	0.0033	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	6020	Zinc, Dissolved	Primary Result	0.0081	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	Primary Result	0.05	mg/L	J	J	V	Result reported below the RL	25027E
PZ-158	1/31/2011	Primary Sample	8260B	Methyl tert-butyl ether	Primary Result	0.25	ug/L	U	UJ	V	LCS/LCSD RPD was high	25027E
PZ-158	1/31/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.43	ug/L	J	J	V	Result reported below the RL	25027E
PZ-159	1/19/2011	Primary Sample	6010B	Aluminum, Dissolved	Primary Result	2.5	mg/L		J	V	MS recovery was poor	24963A
PZ-159	1/19/2011	Primary Sample	300.0	Fluoride	Primary Result	0.39	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.0017	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00069	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	6020	Copper, Dissolved	Primary Result	0.0019	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	6020	Lead, Dissolved	Primary Result	0.0005	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	6020	Silver, Dissolved	Primary Result	0.000028	mg/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24963A
PZ-159	1/19/2011	Primary Sample	6020	Thallium, Dissolved	Primary Result	0.000033	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	6020	Beryllium, Dissolved	Primary Result	0.000088	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	6020	Cadmium, Dissolved	Primary Result	0.00015	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	6020	Chromium, Dissolved	Primary Result	0.0014	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0035	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	Primary Result	0.15	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.16	mg/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	8260B	Acetone	Primary Result	10	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; LCS/LCSD %R was not within control limits; Presumed contamination as indicated by the trip blank Results	24963A
PZ-159	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	1	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination from field blank or equipment rinse blank; Presumed contamination as indicated by the trip blank Results	24963A
PZ-159	1/19/2011	Primary Sample	8270C	Diethyl phthalate	Primary Result	0.9	ug/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	8270C SIM	bis(2-Ethylhexyl) phthalate	Primary Result	9.6	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24963A
PZ-159	1/19/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	Primary Result	9.6	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24963A
PZ-159	1/19/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	Primary Result	9.6	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24963A
PZ-159	1/19/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	Primary Result	9.6	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24963A
PZ-159	1/19/2011	Primary Sample	8270C SIM	Diethyl phthalate	Primary Result	1.1	ug/L	J	J	V	Result reported below the RL	24963A
PZ-159	1/19/2011	Primary Sample	8290	Octachlorodibenzo-p-dioxin	Primary Result	6.3	pg/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24891E
PZ-159	1/19/2011	Primary Sample	8290	Octachlorodibenzofuran	Primary Result	2	pg/L	U	UJ	V	LCS/LCSD %R and RPD was not within control limits	24891E
RD-05A	1/12/2011	Primary Sample	1625M	n-Nitrosodimethylamine	Primary Result	0.005	ug/L	UHTV	UJ	V	Holding times were exceeded	24891A
RD-05A	1/12/2011	Primary Sample	300.0	Fluoride	Primary Result	0.19	mg/L	J	J	V	Result reported below the RL	24891A
RD-05A	1/12/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.076	mg/L	J	J	V	Result reported below the RL	24891A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-05A	1/12/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891A
RD-05B	1/12/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.14	mg/L	J	J	V	Result reported below the RL	24891A
RD-05B	1/12/2011	Primary Sample	300.0	Fluoride	Primary Result	0.082	mg/L	J	J	V	Result reported below the RL	24891A
RD-05B	1/12/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891A
RD-05B	1/12/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05B	1/12/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-05C	1/13/2011	Primary Sample	300.0	Fluoride	Primary Result	0.19	mg/L	J	J	V	Result reported below the RL	24891B
RD-05C	1/13/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.2	mg/L	J	J	V	Result reported below the RL	24891B
RD-05C	1/13/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
RD-06	1/13/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.065	mg/L	J	J	V	Result reported below the RL	24891B

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-06	1/13/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Isopropanol	Primary Result	13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
RD-06	1/13/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-06	1/13/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-08	1/19/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.13	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
RD-08	1/19/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.56	ug/L	J	J	V	Result reported below the RL	24963A
RD-08	1/19/2011	Primary Sample	300.0	Fluoride	Primary Result	0.29	mg/L	J	J	V	Result reported below the RL	24963A
RD-08	1/19/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.48	ug/L	J	J	V	Result reported below the RL	24963A

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RD-08	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
RD-11	1/24/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.15	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24929C
RD-11	1/24/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.75	ug/L	U	UJ	V	LCS/LCSD RPD was high	24929C
RD-12	1/24/2011	Primary Sample	300.0	Fluoride	Primary Result	0.46	mg/L	J	J	V	Result reported below the RL	24929C
RD-12	1/24/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.75	ug/L	U	UJ	V	LCS/LCSD RPD was high	24929C
RD-12	1/24/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.086	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24929C
RD-12	1/24/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.17	ug/L	J	J	V	Result reported below the RL	24929C
RD-12	1/24/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.24	ug/L	J	J	V	Result reported below the RL	24929C
RD-12	1/24/2011	Primary Sample	8315A	Formaldehyde	Primary Result	9.7	ug/L	J	J	V	Result reported below the RL	24929C
RD-13	1/13/2011	Primary Sample	6010B	Manganese	Primary Result	0.0053	mg/L	JB	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.0039	mg/L	JB	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6010B	Iron	Primary Result	0.033	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6010B	Potassium	Primary Result	3.7	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	3.7	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Antimony	Primary Result	0.00023	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Antimony, Dissolved	Primary Result	0.00028	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Arsenic	Primary Result	0.0014	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Cobalt	Primary Result	0.00022	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00021	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Nickel, Dissolved	Primary Result	0.0021	mg/L	B	U	V	Presumed contamination from preparation (method) and trip blank	24891B
RD-13	1/13/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.0014	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Cadmium, Dissolved	Primary Result	0.000052	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Chromium	Primary Result	0.00059	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Copper, Dissolved	Primary Result	0.0018	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Lead, Dissolved	Primary Result	0.0013	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Tin, Dissolved	Primary Result	0.00024	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
RD-13	1/13/2011	Primary Sample	6020	Vanadium	Primary Result	0.0016	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0015	mg/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	6020	Thallium	Primary Result	0.000068	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
RD-13	1/13/2011	Primary Sample	6020	Thallium, Dissolved	Primary Result	0.000061	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
RD-13	1/13/2011	Primary Sample	6020	Tin	Primary Result	0.00037	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891B
RD-13	1/13/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B

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RD-13	1/13/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.28	ug/L	J	J	V	Result reported below the RL	24891B
RD-13	1/13/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-13	1/13/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891B
RD-14	1/13/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.55	ug/L	J	J	V	Result reported below the RL	24891B
RD-18	1/13/2011	Primary Sample	900.0	Gross alpha, Particulate	Primary Result	1.16	pCi/L	J	J	V	Result reported below the RL	24989B
RD-18	1/13/2011	Primary Sample	908.0	Uranium-235, Dissolved	Primary Result	0.143	pCi/L	J	J	V	Result reported below the RL	24989B
RD-19	1/13/2011	Primary Sample	908.0	Uranium-235, Dissolved	Primary Result	0.735	pCi/L	J	J	V	Result reported below the RL	24989B
RD-32	2/1/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24989L
RD-33A	1/19/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.38	ug/L	J	J	V	Result reported below the RL	24963A
RD-33A	1/19/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.76	ug/L	J	J	V	Result reported below the RL	24963A
RD-33A	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
RD-33B	1/13/2011	Primary Sample	908.0	Uranium, Dissolved	Primary Result	0.103	pCi/L	J	J	V	Result reported below the RL	24989B
RD-33B	1/13/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	Primary Result	0.171	pCi/L	J	J	V	Result reported below the RL	24989B
RD-33C	1/25/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	Primary Result	0.188	pCi/L	J	J	V	Result reported below the RL	25027A
RD-33C	1/25/2011	Primary Sample	908.0	Uranium, Dissolved	Primary Result	0.065	pCi/L	J	J	V	Result reported below the RL	25027A
RD-33C	1/25/2011	Primary Sample	900.0	Gross Alpha, Dissolved	Primary Result	3.54	pCi/L		J	IV	Result reported below the RL	25375K
RD-33C	1/25/2011	Primary Sample	900.0	Gross Beta, Dissolved	Primary Result	6.38	pCi/L		J	IV	Result reported below the RL	25375K
RD-34A	1/26/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.53	ug/L	J	J	V	Result reported below the RL	25012E
RD-34A	1/26/2011	Primary Sample	908.0	Uranium-233/234, Particulate	Primary Result	0.088	pCi/L	J	J	V	Result reported below the RL	25027B
RD-34A	1/26/2011	Primary Sample	908.0	Uranium-235, Dissolved	Primary Result	0.464	pCi/L	J	J	V	Result reported below the RL	25027B
RD-34A	1/26/2011	Primary Sample	908.0	Uranium, Particulate	Primary Result	0.138	pCi/L	J	J	V	Result reported below the RL	25027B
RD-34B	1/25/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.56	ug/L	J	J	V	Result reported below the RL	24963B
RD-34B	1/25/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.7	ug/L	J	J	V	Result reported below the RL	24963B
RD-34C	1/24/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.75	ug/L	U	UJ	V	LCS/LCSD RPD was high	24929C

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RD-34C	1/24/2011	Primary Sample	900.0	Gross Alpha, Dissolved	Primary Result	2.43	pCi/L	J	J	V	Result reported below the RL	25036B
RD-34C	1/24/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	Primary Result	0.157	pCi/L	J	J	V	Result reported below the RL	25036B
RD-34C	1/24/2011	Primary Sample	908.0	Uranium, Dissolved	Primary Result	0.063	pCi/L	J	J	V	Result reported below the RL	25036B
RD-36B	1/17/2011	Primary Sample	300.0	Fluoride	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24910A
RD-36B	1/17/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24910A
RD-36B	1/17/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	JB	UJ	V	Presumed contamination as indicated by the preparation (method) blank results; Surrogate recovery was outside QC limits; Presumed contamination as indicated by the trip blank Results	24910A
RD-36B	1/17/2011	Primary Sample	8260B	Chloroform	Primary Result	0.39	ug/L	J	J	V	Result reported below the RL	24910A
RD-36B	1/17/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
RD-36B	1/17/2011	Primary Sample	9040B	pH	Primary Result	6.56	pH Units	HTV	J	V	Holding times were exceeded	24910A
RD-36C	1/17/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.13	mg/L	J	J	V	Result reported below the RL	24910A
RD-36C	1/17/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
RD-36C	1/17/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.44	ug/L	J	J	V	Result reported below the RL	24910A
RD-36C	1/17/2011	Primary Sample	8015B	Gasoline Range Organics (C8-C11)	Primary Result	0.084	mg/L	U	R	V	Instrument tuning was noncompliant	24910A
RD-36C	1/17/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	Primary Result	7.8	ug/L	J	J	V	Result reported below the RL	24910A
RD-36C	1/17/2011	Primary Sample	300.0	Fluoride	Primary Result	0.082	mg/L	J	J	V	Result reported below the RL	24910A
RD-36C	1/17/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
RD-36C	1/17/2011	Primary Sample	9040B	pH	Primary Result	6.69	pH Units	HTV	J	V	Holding times were exceeded	24910A
RD-36D	1/17/2011	Primary Sample	300.0	Fluoride	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	24910A
RD-36D	1/17/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	24910A
RD-36D	1/17/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24910A
RD-36D	1/17/2011	Primary Sample	8260B	Toluene	Primary Result	0.41	ug/L	J	J	V	Result reported below the RL	24910A
RD-36D	1/17/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
RD-36D	1/17/2011	Primary Sample	9040B	pH	Primary Result	8.29	pH Units	HTV	J	V	Holding times were exceeded	24910A
RD-36D	1/17/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	Primary Result	0.72	ug/L	J	J	V	Result reported below the RL	24910A
RD-37	1/19/2011	Field Duplicate	350.1	Ammonia-N	Primary Result	0.056	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
RD-37	1/19/2011	Field Duplicate	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	J	U	V	Presumed contamination as indicated by the trip blank Results	24963A
RD-37	1/19/2011	Field Duplicate	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
RD-37	1/19/2011	Field Duplicate	9040B	pH	Primary Result	7.23	pH Units	HTV	J	V	Holding times were exceeded	24963A
RD-37	1/19/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.055	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
RD-37	1/19/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	J	U	V	Presumed contamination as indicated by the trip blank Results	24963A
RD-37	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-37	1/19/2011	Primary Sample	9040B	pH	Primary Result	7.04	pH Units	HTV	J	V	Holding times were exceeded	24963A
RD-38B	2/2/2011	Field Duplicate	300.0	Fluoride	Primary Result	0.28	mg/L	J	J	V	Result reported below the RL	25067C
RD-38B	2/2/2011	Field Duplicate	350.1	Ammonia-N	Primary Result	0.064	mg/L	J	J	V	Result reported below the RL	25067C
RD-38B	2/2/2011	Field Duplicate	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	25067C
RD-38B	2/2/2011	Primary Sample	1625M	n-Nitrosodimethylamine	Primary Result	0.0054	ug/L		J	V	Surrogate recovery was outside QC limits.	25067C
RD-38B	2/2/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.084	mg/L	J	J	V	Result reported below the RL	25067C
RD-38B	2/2/2011	Primary Sample	300.0	Fluoride	Primary Result	0.28	mg/L	J	J	V	Result reported below the RL	25067C
RD-38B	2/2/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	25067C
RD-39A	1/19/2011	Primary Sample	300.0	Fluoride	Primary Result	0.23	mg/L	J	J	V	Result reported below the RL	24963A
RD-39A	1/19/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.16	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
RD-39A	1/19/2011	Primary Sample	8260B	Acetone	Primary Result	10	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; LCS/LCSD %R was not within control limits; Presumed contamination as indicated by the trip blank Results	24963A
RD-39A	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
RD-39A	1/19/2011	Primary Sample	9040B	pH	Primary Result	7.24	pH Units	HTV	J	V	Holding times were exceeded	24963A
RD-39A	1/19/2011	Primary Sample	DV-WC-0077	Hydrazine	Primary Result	5	ug/L	J	U	IV	Presumed contamination from calibration blank	24963A
RD-39B	1/19/2011	Primary Sample	300.0	Fluoride	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	24963A
RD-39B	1/19/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.058	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963A
RD-39B	1/19/2011	Primary Sample	8015B	Gasoline Range Organics (C8-C11)	Primary Result	0.079	mg/L	U	R	V	MS/MSD recovery was poor or RPD was high	24963A
RD-39B	1/19/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	MS/MSD recovery was poor or RPD was high	24963A
RD-39B	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
RD-39B	1/19/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.33	ug/L	J	J	V	Result reported below the RL	24963A
RD-41A	1/31/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.074	mg/L	J	J	V	Result reported below the RL	25027E
RD-41A	1/31/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	4	mg/L	J	J	V	Result reported below the RL	25027E
RD-41A	1/31/2011	Primary Sample	6010B	Potassium	Primary Result	4.2	mg/L	J	J	V	Result reported below the RL	25027E
RD-41A	1/31/2011	Primary Sample	180.1	Turbidity	Primary Result	15	NTU	HTV	J	V	Holding times were exceeded	25027E
RD-41A	1/31/2011	Primary Sample	300.0	Fluoride	Primary Result	0.28	mg/L	J	J	V	Result reported below the RL	25027E
RD-41A	1/31/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.19	mg/L	UHTV	UJ	V	Holding times were exceeded	25027E
RD-41A	1/31/2011	Primary Sample	9040B	pH	Primary Result	6.97	pH Units	HTV	J	V	Holding times were exceeded	25027E
RD-43A	2/2/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.075	mg/L	J	J	V	Result reported below the RL	25067C
RD-43A	2/2/2011	Primary Sample	300.0	Fluoride	Primary Result	0.34	mg/L	J	J	V	Result reported below the RL	25067C
RD-43A	2/2/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.57	mg/L	J	J	V	Result reported below the RL	25067C
RD-43B	2/1/2011	Primary Sample	300.0	Fluoride	Primary Result	0.33	mg/L	J	J	V	Result reported below the RL	24989L

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RD-43B	2/1/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.076	mg/L	J	J	V	Result reported below the RL	24989L
RD-43B	2/1/2011	Primary Sample	9040B	pH	Primary Result	7.33	pH Units	HTV	J	V	Holding times were exceeded	24989L
RD-43C	2/2/2011	Primary Sample	300.0	Fluoride	Primary Result	0.3	mg/L	J	J	V	Result reported below the RL	25067C
RD-43C	2/2/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.075	mg/L	J	J	V	Result reported below the RL	25067C
RD-45A	1/21/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.067	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24929B
RD-45A	1/21/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.7	ug/L	J	J	V	Result reported below the RL	24929B
RD-45A	1/21/2011	Primary Sample	300.0	Fluoride	Primary Result	0.3	mg/L	J	J	V	Result reported below the RL	24929B
RD-45A	1/21/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	73	ug/L		J	V	Surrogate recovery was outside QC limits.	24929B
RD-45A	1/21/2011	Primary Sample	8260B	Trichloroethene	Primary Result	110	ug/L		J	V	Surrogate recovery was outside QC limits.	24929B
RD-45A	1/21/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	1.3	ug/L	J	J	V	Result reported below the RL	24929B
RD-45B	1/31/2011	Primary Sample	300.0	Fluoride	Primary Result	0.21	mg/L	J	J	V	Result reported below the RL	25027E
RD-45B	1/31/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.19	mg/L	UHTV	UJ	V	Holding times were exceeded	25027E
RD-45B	1/31/2011	Primary Sample	9040B	pH	Primary Result	7.43	pH Units	HTV	J	V	Holding times were exceeded	25027E
RD-45B	1/31/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	1.2	ug/L	J	J	V	Result reported below the RL	25027E
RD-45C	1/31/2011	Primary Sample	300.0	Fluoride	Primary Result	0.27	mg/L	J	J	V	Result reported below the RL	25027E
RD-45C	1/31/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.19	mg/L	UHTV	UJ	V	Holding times were exceeded	25027E
RD-45C	1/31/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.061	mg/L	J	J	V	Result reported below the RL	25027E
RD-45C	1/31/2011	Primary Sample	9040B	pH	Primary Result	7.74	pH Units	HTV	J	V	Holding times were exceeded	25027E
RD-46A	1/25/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.12	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963B
RD-46A	1/25/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.19	mg/L	J	J	V	Result reported below the RL	24963B
RD-46A	1/25/2011	Primary Sample	300.0	Fluoride	Primary Result	0.36	mg/L	J	J	V	Result reported below the RL	24963B
RD-46A	1/25/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.18	mg/L	J	J	V	Result reported below the RL	24963B
RD-46A	1/25/2011	Primary Sample	8260B	Methylene chloride	Primary Result	500	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963B
RD-46A	1/25/2011	Primary Sample	9040B	pH	Primary Result	7.18	pH Units	HTV	J	V	Holding times were exceeded	24963B
RD-46B	1/25/2011	Primary Sample	300.0	Fluoride	Primary Result	0.18	mg/L	J	J	V	Result reported below the RL	24963B
RD-46B	1/25/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.093	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963B
RD-46B	1/25/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.68	ug/L	J	J	V	Result reported below the RL	24963B
RD-46B	1/25/2011	Primary Sample	8315A	Formaldehyde	Primary Result	34	ug/L	J	J	V	Result reported below the RL	24963B
RD-46B	1/25/2011	Primary Sample	9040B	pH	Primary Result	8.73	pH Units	HTV	J	V	Holding times were exceeded	24963B
RD-48A	1/18/2011	Primary Sample	300.0	Fluoride	Primary Result	0.18	mg/L	J	J	V	Result reported below the RL	24920A
RD-48A	1/18/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.069	mg/L	J	J	V	Result reported below the RL	24920A
RD-48A	1/18/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.25	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24920A
RD-48A	1/18/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.093	mg/L	J	J	V	Result reported below the RL	24920A
RD-48A	1/18/2011	Primary Sample	9040B	pH	Primary Result	6.88	pH Units	HTV	J	V	Holding times were exceeded	24920A
RD-48A	1/18/2011	Primary Sample	DV-WC-0077	Hydrazine	Primary Result	5.0	ug/L	J	U	IV	Presumed contamination from calibration blank	24920A
RD-48B	1/18/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.25	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24920A
RD-48B	1/18/2011	Primary Sample	300.0	Fluoride	Primary Result	0.25	mg/L	J	J	V	Result reported below the RL	24920A
RD-48B	1/18/2011	Primary Sample	9040B	pH	Primary Result	7.8	pH Units	HTV	J	V	Holding times were exceeded	24920A
RD-48C	2/1/2011	Primary Sample	300.0	Fluoride	Primary Result	0.27	mg/L	J	J	V	Result reported below the RL	24989L
RD-48C	2/1/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.19	mg/L	UHTV	UJ	V	Holding times were exceeded	24989L

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RD-48C	2/1/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.14	mg/L	J	J	V	Result reported below the RL	24989L
RD-48C	2/1/2011	Primary Sample	9040B	pH	Primary Result	7.33	pH Units	HTV	J	V	Holding times were exceeded	24989L
RD-49A	1/28/2011	Primary Sample	300.0	Fluoride	Primary Result	0.34	mg/L	J	J	V	Result reported below the RL	24989I
RD-49A	1/28/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.13	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989I
RD-49A	1/28/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	Primary Result	0.18	mg/L	J	J	V	Result reported below the RL	24989I
RD-49A	1/28/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	Primary Result	0.041	mg/L	J	J	V	Result reported below the RL	24989I
RD-49A	1/28/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	4.5	ug/L	J	J	V	Result reported below the RL	24989I
RD-49B	1/21/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.08	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24929B
RD-49B	1/21/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	4.7	mg/L	J	J	V	Result reported below the RL	24929B
RD-49B	1/21/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24929B
RD-49B	1/21/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.21	mg/L	J	J	V	Result reported below the RL	24929B
RD-49B	1/21/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.087	mg/L	J	J	V	Result reported below the RL	24929B
RD-49B	1/21/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	11	ug/L		J	V	Surrogate recovery was outside QC limits.	24929B
RD-49B	1/21/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.7	ug/L	J	J	V	Result reported below the RL	24929B
RD-49B	1/21/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	3.1	ug/L		J	V	Surrogate recovery was outside QC limits.	24929B
RD-49B	1/21/2011	Primary Sample	300.0	Fluoride	Primary Result	0.22	mg/L	J	J	V	Result reported below the RL	24929B
RD-49C	1/21/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.059	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24929B
RD-49C	1/21/2011	Primary Sample	300.0	Fluoride	Primary Result	0.17	mg/L	J	J	V	Result reported below the RL	24929B
RD-49C	1/21/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24929B
RD-49C	1/21/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.13	mg/L	J	J	V	Result reported below the RL	24929B
RD-49C	1/21/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	5.2	ug/L		J	V	Surrogate recovery was outside QC limits.	24929B
RD-49C	1/21/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.99	ug/L	J	J	V	Result reported below the RL	24929B
RD-49C	1/21/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	51	ug/L		J	V	Surrogate recovery was outside QC limits.	24929B
RD-49C	1/21/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.62	ug/L	J	J	V	Result reported below the RL	24929B
RD-49C	1/21/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.74	ug/L	J	J	V	Result reported below the RL	24929B
RD-49C	2/4/2011	Primary Sample	8315A	Formaldehyde	Primary Result	22	ug/L	J	J	V	Result reported below the RL	25012H
RD-50	1/19/2011	Primary Sample	8260B	Benzene	Primary Result	0.55	ug/L	J	J	V	Result reported below the RL	24963A
RD-50	1/19/2011	Primary Sample	8260B	Toluene	Primary Result	0.56	ug/L	J	J	V	Result reported below the RL	24963A
RD-50	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
RD-50	1/19/2011	Primary Sample	908.0	Uranium-235, Dissolved	Primary Result	0.607	pCi/L	J	J	V	Result reported below the RL	25012A
RD-51A	1/18/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.11	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24920A
RD-51A	1/18/2011	Primary Sample	9040B	pH	Primary Result	7.23	pH Units	HTV	J	V	Holding times were exceeded	24920A
RD-51A	1/18/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.3	ug/L	J	J	V	Result reported below the RL	24920A
RD-51A	1/18/2011	Primary Sample	300.0	Fluoride	Primary Result	0.39	mg/L	J	J	V	Result reported below the RL	24920A
RD-51B	1/26/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.14	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	25012E
RD-51B	1/26/2011	Primary Sample	300.0	Fluoride	Primary Result	0.26	mg/L	J	J	V	Result reported below the RL	25012E
RD-51B	1/26/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E

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RD-51B	1/26/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Isopropanol	Primary Result	13	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	4.1	ug/L		J	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.36	ug/L	J	J	V	Result reported below the RL	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Trichloroethene	Primary Result	2.6	ug/L		J	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	R	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	1.9	ug/L		J	V	MS/MSD recovery was poor or RPD was high	25012E
RD-51B	1/26/2011	Primary Sample	9040B	pH	Primary Result	7.41	pH Units	HTV	J	V	Holding times were exceeded	25012E
RD-51C	1/26/2011	Primary Sample	300.0	Fluoride	Primary Result	0.18	mg/L	J	J	V	Result reported below the RL	25012E
RD-51C	1/26/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.14	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	25012E
RD-51C	1/26/2011	Primary Sample	9040B	pH	Primary Result	7.51	pH Units	HTV	J	V	Holding times were exceeded	25012E
RD-52A	1/21/2011	Primary Sample	300.0	Fluoride	Primary Result	0.36	mg/L	J	J	V	Result reported below the RL	24929B
RD-52A	1/21/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.039	mg/L	J	J	V	Result reported below the RL	24929B
RD-52A	1/21/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.28	mg/L	JB	J	V	Result reported below the RL	24929B
RD-52A	1/21/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	3.3	ug/L	J	J	V	Result reported below the RL	24929B
RD-52B	1/31/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.073	mg/L	J	J	V	Result reported below the RL	25027E
RD-52B	1/31/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.18	mg/L	J	J	V	Result reported below the RL	25027E
RD-52B	1/31/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.17	mg/L	J	J	V	Result reported below the RL	25027E
RD-52B	1/31/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.98	ug/L	J	J	V	Result reported below the RL	25027E
RD-52B	1/31/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	1.3	ug/L	J	J	V	Result reported below the RL	25027E
RD-52B	1/31/2011	Primary Sample	300.0	Fluoride	Primary Result	0.19	mg/L	J	J	V	Result reported below the RL	25027E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-52B	1/31/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.19	mg/L	UHTV	UJ	V	Holding times were exceeded	25027E
RD-52B	1/31/2011	Primary Sample	9040B	pH	Primary Result	7.21	pH Units	HTV	J	V	Holding times were exceeded	25027E
RD-52C	1/31/2011	Primary Sample	300.0	Fluoride	Primary Result	0.21	mg/L	J	J	V	Result reported below the RL	25027E
RD-52C	1/31/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.19	mg/L	UHTV	UJ	V	Holding times were exceeded	25027E
RD-52C	1/31/2011	Primary Sample	9040B	pH	Primary Result	7.37	pH Units	HTV	J	V	Holding times were exceeded	25027E
RD-52C	1/31/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.96	ug/L	J	J	V	Result reported below the RL	25027E
RD-55A	1/14/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6010B	Manganese	Primary Result	0.0043	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-55A	1/14/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.0047	mg/L	JB	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	300.0	Fluoride	Primary Result	0.32	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6010B	Potassium	Primary Result	2.6	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	2.5	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6020	Antimony	Primary Result	0.00008	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6020	Arsenic	Primary Result	0.00033	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6020	Cobalt	Primary Result	0.00026	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00024	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6020	Nickel, Dissolved	Primary Result	0.0026	mg/L	B	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-55A	1/14/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.00036	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6020	Selenium, Dissolved	Primary Result	0.0018	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6020	Vanadium	Primary Result	0.0016	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0016	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	1.3	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	6020	Thallium	Primary Result	0.000026	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-55A	1/14/2011	Primary Sample	6020	Tin	Primary Result	0.00019	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-55A	1/14/2011	Primary Sample	6020	Zinc	Primary Result	0.0028	mg/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	6020	Zinc, Dissolved	Primary Result	0.003	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-55A	1/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-55A	1/14/2011	Primary Sample	8260B	Isopropanol	Primary Result	13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.56	ug/L	J	J	V	Result reported below the RL	24891C
RD-55A	1/14/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55A	1/14/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-55B	1/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24891C
RD-55B	1/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	9.9	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Isopropanol	Primary Result	13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-55B	1/14/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	DV-WC-0077	Hydrazine	Primary Result	5.0	ug/L	J	U	IV	Presumed contamination from calibration blank	24891C
RD-55B	1/14/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8260B	Trichloroethene	Primary Result	9.4	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
RD-55B	1/14/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-57	1/19/2011	Primary Sample	8260B	Acetone	Primary Result	10	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; LCS/LCSD %R was not within control limits	24963A
RD-57	1/19/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24963A
RD-57	1/19/2011	Primary Sample	908.0	Uranium-235, Dissolved	Primary Result	0.106	pCi/L	J	J	V	Result reported below the RL	25012A
RD-58A	1/14/2011	Primary Sample	6010B	Manganese	Primary Result	0.00076	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-58A	1/14/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.00068	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-58A	1/14/2011	Primary Sample	6010B	Potassium	Primary Result	4.6	mg/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.15	mg/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	4.4	mg/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Primary Sample	6020	Antimony, Dissolved	Primary Result	0.00017	mg/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00029	mg/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Primary Sample	6020	Nickel, Dissolved	Primary Result	0.004	mg/L	B	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-58A	1/14/2011	Primary Sample	6020	Thallium, Dissolved	Primary Result	0.000054	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-58A	1/14/2011	Primary Sample	6020	Tin	Primary Result	0.001	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-58A	1/14/2011	Primary Sample	6020	Tin, Dissolved	Primary Result	0.00023	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-58A	1/14/2011	Primary Sample	6020	Antimony	Primary Result	0.00016	mg/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Primary Sample	6020	Cobalt	Primary Result	0.00032	mg/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Primary Sample	6020	Silver, Dissolved	Primary Result	0.000016	mg/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Primary Sample	6020	Thallium	Primary Result	0.000059	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-58A	1/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	1.9	ug/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-58A	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Isopropanol	Primary Result	13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Trichloroethene	Primary Result	110	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	2.2	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	J	UJ	V	Presumed contamination as indicated by the trip blank Results; Surrogate recovery was outside QC limits	24891C
RD-58A	1/14/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58A	1/14/2011	Split Sample	6010B	Iron, Dissolved	Primary Result	0.03	mg/L	J	J	V	Result reported below the RL	25027D
RD-58A	1/14/2011	Split Sample	6010B	Potassium	Primary Result	4	mg/L	J	J	V	Result reported below the RL	25027D
RD-58A	1/14/2011	Split Sample	6010B	Potassium, Dissolved	Primary Result	4.3	mg/L	J	J	V	Result reported below the RL	25027D
RD-58A	1/14/2011	Split Sample	6020	Cobalt	Primary Result	0.00016	mg/L	J	J	V	Result reported below the RL	25027D
RD-58A	1/14/2011	Split Sample	6020	Cobalt, Dissolved	Primary Result	0.00024	mg/L	J	J	V	Result reported below the RL	25027D
RD-58A	1/14/2011	Split Sample	6020	Copper	Primary Result	0.00097	mg/L	J	J	V	Result reported below the RL	25027D
RD-58A	1/14/2011	Split Sample	6020	Nickel, Dissolved	Primary Result	0.0026	mg/L	B	U	V	Presumed contamination from preparation (method) and trip blank	25027D
RD-58A	1/14/2011	Split Sample	6020	Copper, Dissolved	Primary Result	0.0015	mg/L	J	J	V	Result reported below the RL	25027D
RD-58A	1/14/2011	Split Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	2	ug/L	J	J	V	Result reported below the RL	25027D
RD-58A	1/14/2011	Primary Sample	300.0	Fluoride	Primary Result	0.37	mg/L	J	J	V	Result reported below the RL	24891C
RD-58A	1/14/2011	Split Sample	300.0	Fluoride	Primary Result	0.47	mg/L	J	J	V	Result reported below the RL	25027D
RD-58B	1/14/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	24891C
RD-58B	1/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-58B	1/14/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	J	UJ	V	Presumed contamination as indicated by the trip blank Results; Surrogate recovery was outside QC limits	24891C
RD-58B	1/14/2011	Primary Sample	300.0	Fluoride	Primary Result	0.36	mg/L	J	J	V	Result reported below the RL	24891C
RD-58B	1/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Isopropanol	Primary Result	13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58B	1/14/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-58C	1/14/2011	Field Duplicate	350.1	Ammonia-N	Primary Result	0.14	mg/L	J	J	V	Result reported below the RL	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	300.0	Fluoride	Primary Result	0.26	mg/L	J	J	V	Result reported below the RL	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-58C	1/14/2011	Field Duplicate	8260B	cis-1,2-Dichloroethene	Primary Result	0.59	ug/L	J	J	V	Result reported below the RL	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Isopropanol	Primary Result	13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Vinyl chloride	Primary Result	0.61	ug/L	J	J	V	Result reported below the RL	24891C
RD-58C	1/14/2011	Primary Sample	300.0	Fluoride	Primary Result	0.26	mg/L	J	J	V	Result reported below the RL	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Methylene chloride	Primary Result	5	ug/L	J	UJ	V	Presumed contamination as indicated by the trip blank Results; Surrogate recovery was outside QC limits	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Field Duplicate	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-58C	1/14/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.15	mg/L	J	J	V	Result reported below the RL	24891C
RD-58C	1/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.58	ug/L	J	J	V	Result reported below the RL	24891C
RD-58C	1/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-58C	1/14/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Isopropanol	Primary Result	13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.59	ug/L	J	J	V	Result reported below the RL	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-58C	1/14/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RD-59A	1/12/2011	Primary Sample	900.0	Gross alpha, Particulate	Primary Result	1.56	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59A	1/12/2011	Primary Sample	900.0	Gross Beta, Dissolved	Primary Result	3.78	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59A	1/12/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	Primary Result	0.674	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59A	1/12/2011	Primary Sample	908.0	Uranium, Dissolved	Primary Result	0.517	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59B	1/12/2011	Field Duplicate	900.0	Gross Alpha, Dissolved	Primary Result	1.41	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59B	1/12/2011	Field Duplicate	908.0	Uranium-233/234, Dissolved	Primary Result	0.254	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59B	1/12/2011	Field Duplicate	908.0	Uranium, Dissolved	Primary Result	0.106	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59B	1/12/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-59B	1/12/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-59B	1/12/2011	Primary Sample	900.0	Gross Alpha, Dissolved	Primary Result	2.35	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59B	1/12/2011	Primary Sample	900.0	Gross Beta, Dissolved	Primary Result	3.84	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59B	1/12/2011	Primary Sample	908.0	Uranium, Dissolved	Primary Result	0.128	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59B	1/12/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	Primary Result	0.259	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59C	1/12/2011	Primary Sample	900.0	Gross Beta, Dissolved	Primary Result	2.92	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59C	1/12/2011	Primary Sample	908.0	Uranium-233/234, Dissolved	Primary Result	0.207	pCi/L	J	J	V	Result reported below the RL	24989A
RD-59C	1/12/2011	Primary Sample	908.0	Uranium, Dissolved	Primary Result	0.062	pCi/L	J	J	V	Result reported below the RL	24989A
RD-67	1/13/2011	Primary Sample	8260B	Toluene	Primary Result	0.33	ug/L	J	J	V	Result reported below the RL	24891B
RD-68A	1/12/2011	Primary Sample	300.0	Fluoride	Primary Result	0.28	mg/L	J	J	V	Result reported below the RL	24891A
RD-68A	1/12/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24891A
RD-68A	1/12/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891A
RD-68B	1/12/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.076	mg/L	J	J	V	Result reported below the RL	24891A
RD-68B	1/12/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-68B	1/12/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
RD-68B	1/12/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891A
RD-73	1/13/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	31	ug/L	J	J	V	Result reported below the RL	24891B
RD-73	1/13/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	5.6	ug/L	J	J	V	Result reported below the RL	24891B
RD-73	1/13/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	61	ug/L	J	J	V	Result reported below the RL	24891B
RD-73	1/13/2011	Primary Sample	8260B	Chloroform	Primary Result	7.1	ug/L	J	J	V	Result reported below the RL	24891B
RD-73	1/13/2011	Primary Sample	8260B	Benzene	Primary Result	9.9	ug/L	J	J	V	Result reported below the RL	24891B
RD-77	2/2/2011	Primary Sample	6010B	Manganese	Primary Result	0.0047	mg/L	JB	J	V	Result reported below the RL	25067C
RD-77	2/2/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.0028	mg/L	J	J	V	Result reported below the RL	25067C
RD-77	2/2/2011	Primary Sample	6010B	Strontium	Primary Result	0.31	mg/L	B	U	V	Presumed contamination from preparation (method) and trip blank	25067C
RD-77	2/2/2011	Primary Sample	6010B	Iron	Primary Result	0.072	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	25067C
RD-77	2/2/2011	Primary Sample	6010B	Potassium	Primary Result	3.6	mg/L	J	J	V	Result reported below the RL	25067C
RD-77	2/2/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	3.3	mg/L	J	J	V	Result reported below the RL	25067C
RD-77	2/2/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	8.9	ug/L	J	J	V	Result reported below the RL	25067C
RD-77	2/2/2011	Primary Sample	8260B	Chloroform	Primary Result	1.6	ug/L	J	J	V	Result reported below the RL	25067C
RD-77	2/2/2011	Primary Sample	8260B	Methylene chloride	Primary Result	10	ug/L	J	U	V	Presumed contamination as indicated by the trip blank Results	25067C
RD-77	2/2/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.74	ug/L	J	J	V	Result reported below the RL	25067C
RD-77	2/2/2011	Primary Sample	300.0	Fluoride	Primary Result	0.2	mg/L	J	J	V	Result reported below the RL	25067C
RD-78	2/4/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.33	ug/L	J	J	V	Result reported below the RL	25012H
RD-82	1/26/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-82	1/26/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.31	ug/L	J	J	V	Result reported below the RL	25012E
RD-82	1/26/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-82	1/26/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RD-83	1/26/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.35	ug/L	J	J	V	Result reported below the RL	25012E
RD-83	1/26/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.36	ug/L	J	J	V	Result reported below the RL	25012E
RD-85	1/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-85	1/14/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.8	ug/L	J	J	V	Result reported below the RL	24891C
RD-85	1/14/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-85	1/14/2011	Primary Sample	900.0	Gross alpha, Particulate	Primary Result	2.06	pCi/L	J	J	V	Result reported below the RL	24989C
RD-85	1/14/2011	Primary Sample	908.0	Uranium-235, Dissolved	Primary Result	0.155	pCi/L	J	J	V	Result reported below the RL	24989C
RD-86	1/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	J	UJ	V	Presumed contamination as indicated by the trip blank Results; Surrogate recovery was outside QC limits	24891C
RD-86	1/14/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RD-86	1/14/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	900.0	Gross Alpha, Dissolved	Primary Result	2.07	pCi/L	J	J	V	Result reported below the RL	24989C
RD-86	1/14/2011	Primary Sample	900.0	Gross alpha, Particulate	Primary Result	1.89	pCi/L	J	J	V	Result reported below the RL	24989C
RD-86	1/14/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RD-86	1/14/2011	Primary Sample	900.0	Gross Beta, Dissolved	Primary Result	2.32	pCi/L	J	J	V	Result reported below the RL	24989C
RD-86	1/14/2011	Primary Sample	900.0	Gross beta, Particulate	Primary Result	2.26	pCi/L	J	J	V	Result reported below the RL	24989C
RD-86	1/14/2011	Primary Sample	908.0	Uranium-235, Dissolved	Primary Result	0.158	pCi/L	J	J	V	Result reported below the RL	24989C
RD-96	1/12/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.18	ug/L	J	J	V	Result reported below the RL	24891A
RD-96	1/12/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.85	ug/L	J	J	V	Result reported below the RL	24891A
RD-96	1/12/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.3	ug/L	J	J	V	Result reported below the RL	24891A
RD-96	1/12/2011	Primary Sample	908.0	Uranium-235, Dissolved	Primary Result	0.224	pCi/L	J	J	V	Result reported below the RL	24989A
RD-98	1/13/2011	Primary Sample	908.0	Uranium-235, Dissolved	Primary Result	0.27	pCi/L	J	J	V	Result reported below the RL	24989B
RS-07	2/1/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.093	mg/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989L
RS-07	2/1/2011	Primary Sample	8270C	Diethyl phthalate	Primary Result	0.52	ug/L	J	J	V	Result reported below the RL	24989L
RS-07	2/1/2011	Primary Sample	9040B	pH	Primary Result	7.22	pH Units	HTV	J	V	Holding times were exceeded	24989L
RS-07	2/1/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	1.7	mg/L	JHTV	J	V	Result reported below the RL	24989L
RS-08	1/26/2011	Primary Sample	300.0	Fluoride	Primary Result	0.49	mg/L	J	J	V	Result reported below the RL	25012E
RS-08	1/26/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.47	mg/L	J	J	V	Result reported below the RL	25012E
RS-08	1/26/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.088	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	25012E
RS-08	1/26/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.23	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
RS-08	1/26/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.33	ug/L	J	J	V	Result reported below the RL	25012E
RS-08	1/26/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-08	1/26/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.1	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	25012E
RS-15	1/13/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.25	ug/L	J	J	V	Result reported below the RL	24891B
RS-15	1/17/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.6	ug/L	J	J	V	Result reported below the RL	24910A
RS-15	1/17/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.37	ug/L	J	J	V	Result reported below the RL	24910A
RS-30	2/3/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	Primary Result	700	ug/L	B	J	V	Surrogate recovery was outside QC limits.	24989O
RS-31	2/3/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24989O
RS-32	2/3/2011	Primary Sample	8015B	Gasoline Range Organics (C6-C12)	Primary Result	100	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24989O
RS-32	2/3/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.18	ug/L	J	J	V	Result reported below the RL	24989O
RS-33	1/14/2011	Field Duplicate	1625M	n-Nitrosodimethylamine	Primary Result	0.25	ug/L		J	V	Field duplicate RPD > CL	24868A
RS-33	1/14/2011	Primary Sample	180.1	Turbidity	Primary Result	0.2	NTU	UHTV	UJ	V	Holding times were exceeded	24891C
RS-33	1/14/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.081	mg/L	J	J	V	Result reported below the RL	24891C
RS-33	1/14/2011	Primary Sample	300.0	Fluoride	Primary Result	0.41	mg/L	J	J	V	Result reported below the RL	24891C
RS-33	1/14/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	4.8	mg/L	J	J	V	Result reported below the RL	24891C
RS-33	1/14/2011	Primary Sample	6010B	Zinc, Dissolved	Primary Result	0.005	mg/L	J	J	V	Result reported below the RL	24891C
RS-33	1/14/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.34	ug/L	J	J	V	Result reported below the RL	24891C
RS-33	1/14/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.46	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.26	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	Benzene	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.38	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C

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RS-33	1/14/2011	Primary Sample	8260B	Chloroform	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	Isopropanol	Primary Result	26	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.68	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	780	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.54	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	1.2	ug/L	J	J	V	Result reported below the RL	24891C
RS-33	1/14/2011	Primary Sample	8260B	Acetone	Primary Result	65	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	39	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	4	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	Methylene chloride	Primary Result	10	ug/L	J	UJ	V	Presumed contamination as indicated by the trip blank Results; Surrogate recovery was outside QC limits	24891C
RS-33	1/14/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.38	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.48	ug/L	J	J	V	Result reported below the RL	24891C
RS-33	1/14/2011	Primary Sample	8260B	Trichloroethene	Primary Result	440	ug/L		J	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.42	ug/L	J	J	V	Result reported below the RL	24891C
RS-33	1/14/2011	Primary Sample	8260B	Toluene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.58	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891C
RS-33	1/14/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.87	ug/L	J	J	V	Result reported below the RL	24891C
RS-33	1/14/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24891C
RS-34	1/28/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.083	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989I
RS-34	1/28/2011	Primary Sample	6010B	Manganese	Primary Result	0.0084	mg/L	J	J	V	Result reported below the RL	24989I
RS-34	1/28/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.0059	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989I
RS-34	1/28/2011	Primary Sample	6010B	Iron	Primary Result	0.034	mg/L	J	J	V	Result reported below the RL	24989I
RS-34	1/28/2011	Primary Sample	6010B	Zinc, Dissolved	Primary Result	0.0047	mg/L	J	J	V	Result reported below the RL	24989I
RS-34	1/28/2011	Primary Sample	300.0	Fluoride	Primary Result	0.4	mg/L	J	J	V	Result reported below the RL	24989I
RS-34	1/28/2011	Primary Sample	8260B	Methylene chloride	Primary Result	5	ug/L	JB	U	V	Presumed contamination as indicated by the preparation (method) blank results; Presumed contamination as indicated by the trip blank Results	24989I
RS-34	1/28/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.53	ug/L	J	J	V	Result reported below the RL	24989I
SH-02	1/21/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.1	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24929B
SH-02	1/21/2011	Primary Sample	6010B	Potassium	Primary Result	1.7	mg/L	J	J	V	Result reported below the RL	24929B
SH-02	1/21/2011	Primary Sample	6010B	Zinc	Primary Result	0.0096	mg/L	J	J	V	Result reported below the RL	24929B
SH-02	1/21/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	1.5	mg/L	J	J	V	Result reported below the RL	24929B
SH-02	1/21/2011	Primary Sample	6010B	Zinc, Dissolved	Primary Result	0.0098	mg/L	J	J	V	Result reported below the RL	24929B

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SH-02	1/21/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.81	ug/L	J	J	V	Result reported below the RL	24929B
SH-02	1/21/2011	Primary Sample	8260B	Chloroform	Primary Result	23	ug/L		U	V	Presumed contamination from field blank or equipment rinse blank	24929B
SH-03	1/21/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.00034	mg/L	J	J	V	Result reported below the RL	24929B
SH-03	1/21/2011	Primary Sample	6010B	Potassium	Primary Result	2.1	mg/L	J	J	V	Result reported below the RL	24929B
SH-03	1/21/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.063	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24929B
SH-03	1/21/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	2.1	mg/L	J	J	V	Result reported below the RL	24929B
SH-03	1/21/2011	Primary Sample	6010B	Zinc, Dissolved	Primary Result	0.0062	mg/L	J	J	V	Result reported below the RL	24929B
SH-03	1/21/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.93	ug/L	J	J	V	Result reported below the RL	24929B
SH-03	1/21/2011	Primary Sample	6010B	Zinc	Primary Result	0.0095	mg/L	J	J	V	Result reported below the RL	24929B
SH-03	1/21/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	35	ug/L		J	V	MS/MSD recovery was poor or RPD was high	24929B
SH-03	1/21/2011	Primary Sample	8260B	Chloroform	Primary Result	96	ug/L		J	V	Surrogate recovery was outside QC limits.	24929B
SH-03	2/2/2011	Field Duplicate	8081A	4,4'-DDT	Primary Result	0.014	ug/L	U	UJ	IV	LCS/LCSD RPD was high	25067C
SH-03	2/2/2011	Field Duplicate	8081A	delta-BHC	Primary Result	0.0055	ug/L	U	UJ	IV	LCS/LCSD %R was not within control limits	25067C
SH-03	2/2/2011	Primary Sample	8081A	4,4'-DDT	Primary Result	0.014	ug/L	U	UJ	IV	LCS/LCSD RPD was high	25067C
SH-03	2/2/2011	Field Duplicate	8081A	gamma-BHC	Primary Result	0.0066	ug/L	U	UJ	IV	LCS/LCSD RPD was high	25067C
SH-03	2/2/2011	Field Duplicate	8081A	Heptachlor	Primary Result	0.0073	ug/L	U	UJ	IV	LCS/LCSD RPD was high	25067C
SH-03	2/2/2011	Primary Sample	8081A	delta-BHC	Primary Result	0.0055	ug/L	U	UJ	IV	LCS/LCSD %R was not within control limits	25067C
SH-03	2/2/2011	Primary Sample	8081A	gamma-BHC	Primary Result	0.0066	ug/L	U	UJ	IV	LCS/LCSD RPD was high	25067C
SH-03	2/2/2011	Primary Sample	8081A	Heptachlor	Primary Result	0.0074	ug/L	U	UJ	IV	LCS/LCSD RPD was high	25067C
SH-04	1/21/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.065	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24929B
SH-04	1/21/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.56	ug/L	J	J	V	Result reported below the RL	24929B
SH-04	1/21/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	J	J	V	Result reported below the RL	24929B
SH-07	1/27/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.12	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24989F
SH-07	1/27/2011	Primary Sample	6010B	Iron	Primary Result	0.057	mg/L	J	J	V	Result reported below the RL	24989F
SH-07	1/27/2011	Primary Sample	6010B	Manganese	Primary Result	0.002	mg/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	24989F
SH-07	1/27/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.00064	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989F
SH-07	1/27/2011	Primary Sample	6010B	Potassium	Primary Result	0.86	mg/L	J	J	V	Result reported below the RL	24989F
SH-07	1/27/2011	Primary Sample	6010B	Zinc	Primary Result	0.0049	mg/L	J	J	V	Result reported below the RL	24989F
SH-07	1/27/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.32	ug/L	J	J	V	Result reported below the RL	24989F
SH-07	1/27/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.74	ug/L	J	J	V	Result reported below the RL	24989F
SH-07	1/27/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	0.89	mg/L	J	J	V	Result reported below the RL	24989F
SH-07	1/27/2011	Primary Sample	8260B	Chloroform	Primary Result	0.34	ug/L	J	J	V	Result reported below the RL	24989F
SH-07	1/27/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.55	ug/L	J	J	V	Result reported below the RL	24989F
SH-07	1/27/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.91	ug/L	J	J	V	Result reported below the RL	24989F
SH-07	1/27/2011	Primary Sample	300.0	Fluoride	Primary Result	0.43	mg/L	J	J	V	Result reported below the RL	24989F
SH-09	1/20/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.083	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24941A
SH-09	1/20/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.00059	mg/L	J	J	V	Result reported below the RL	24941A
SH-09	1/20/2011	Primary Sample	6010B	Potassium	Primary Result	0.97	mg/L	J	J	V	Result reported below the RL	24941A
SH-09	1/20/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	0.91	mg/L	J	J	V	Result reported below the RL	24941A

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SH-09	1/20/2011	Primary Sample	6010B	Zinc	Primary Result	0.0082	mg/L	J	J	V	Result reported below the RL	24941A
SH-09	1/20/2011	Primary Sample	6010B	Zinc, Dissolved	Primary Result	0.007	mg/L	J	J	V	Result reported below the RL	24941A
SH-09	1/20/2011	Primary Sample	9040B	pH	Primary Result	7.22	pH Units	HTV	J	V	Holding times were exceeded	24941A
SH-09	2/7/2011	Field Duplicate	524.2	1,2,3-Trichloropropane	Primary Result	0.0036	ug/L	J	J	IV	Result reported below the RL	25027F
SH-09	2/7/2011	Primary Sample	524.2	1,2,3-Trichloropropane	Primary Result	0.0035	ug/L	J	J	IV	Result reported below the RL	25027F
SH-11	1/20/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	2	mg/L	J	J	V	Result reported below the RL	24941A
SH-11	1/20/2011	Field Duplicate	8270C	bis(2-Ethylhexyl) phthalate	Primary Result	1.1	ug/L	J	J	IV	Result reported below the RL	24941A
SH-11	1/20/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.12	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	24941A
SH-11	1/20/2011	Primary Sample	8270C	bis(2-Ethylhexyl) phthalate	Primary Result	0.86	ug/L	J	J	IV	Result reported below the RL	24941A
SH-11	1/20/2011	Split Sample	8270C	Diethyl phthalate	Primary Result	0.26	ug/L	RL3,J	J	IV	Result reported below the RL	24963D
WS-04A	2/1/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	24989L
WS-04A	2/1/2011	Primary Sample	300.0	Fluoride	Primary Result	0.19	mg/L	J	J	V	Result reported below the RL	24989L
WS-09A	1/12/2011	Primary Sample	8260B	1,1-Dichloroethane	Primary Result	0.22	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	0.53	ug/L	J	J	V	Result reported below the RL	24891A
WS-09A	1/12/2011	Primary Sample	8260B	1,2-Dichloroethane	Primary Result	0.13	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	1,1,1-Trichloroethane	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	0.42	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	1,1,2-Trichloroethane	Primary Result	0.27	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Chloroform	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Methyl ethyl ketone	Primary Result	2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Methylene chloride	Primary Result	0.32	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	o-Xylene	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	4.3	ug/L		J	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Acetone	Primary Result	1.9	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Benzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.19	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Ethylbenzene	Primary Result	0.16	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	m-Xylene & p-Xylene	Primary Result	0.34	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Tetrachloroethene	Primary Result	0.2	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Toluene	Primary Result	0.17	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	0.29	ug/L	U	UJ	V	Surrogate recovery was outside QC limits.	24891A
WS-09A	1/12/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	0.48	ug/L	J	J	V	Result reported below the RL	24891A
HAR-07	1/27/2011	Primary Sample	300.0	Fluoride	Primary Result	0.35	mg/L	J	J	V	Result reported below the RL	24989F
HAR-07	1/27/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.25	mg/L	J	J	V	Result reported below the RL	24989F

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SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
HAR-07	1/27/2011	Primary Sample	8015B	Gasoline Range Organics (C8-C11)	Primary Result	0.074	mg/L	U	R	V	MS/MSD recovery was poor or RPD was high	24989F
HAR-07	1/27/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	4.1	ug/L	J	J	V	Result reported below the RL	24989F
HAR-07	1/27/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.12	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24989F
HAR-07	1/27/2011	Primary Sample	8260B	Methylene chloride	Primary Result	2.2	ug/L	J	J	V	Result reported below the RL	24989F
HAR-07	1/27/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	4.1	ug/L	J	J	V	Result reported below the RL	24989F
HAR-08	1/17/2011	Primary Sample	300.0	Fluoride	Primary Result	0.21	mg/L	J	J	V	Result reported below the RL	24910A
HAR-08	1/17/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.14	mg/L	J	J	V	Result reported below the RL	24910A
HAR-08	1/17/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	15	ug/L		J	V	Surrogate recovery was outside QC limits.	24910A
HAR-08	1/17/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	1.2	ug/L		J	V	Surrogate recovery was outside QC limits.	24910A
HAR-08	1/17/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	0.82	ug/L	J	J	V	Result reported below the RL	24910A
HAR-08	1/17/2011	Primary Sample	8315A	Formaldehyde	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24910A
HAR-08	1/17/2011	Primary Sample	8260B	Trichloroethene	Primary Result	1.2	ug/L		J	V	Surrogate recovery was outside QC limits.	24910A
HAR-08	1/17/2011	Primary Sample	8260B	Vinyl chloride	Primary Result	6.2	ug/L		J	V	Surrogate recovery was outside QC limits.	24910A
HAR-08	1/17/2011	Primary Sample	9040B	pH	Primary Result	7.06	pH Units	HTV	J	V	Holding times were exceeded	24910A
HAR-09	1/26/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.44	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	25012E
HAR-09	1/26/2011	Primary Sample	300.0	Fluoride	Primary Result	0.32	mg/L	J	J	V	Result reported below the RL	25012E
HAR-09	1/26/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.22	mg/L	J	J	V	Result reported below the RL	25012E
HAR-09	1/26/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.066	mg/L	J	J	V	Result reported below the RL	25012E
HAR-09	1/26/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.087	mg/L	J	J	V	Result reported below the RL	25012E
HAR-09	1/26/2011	Primary Sample	6010B	Iron, Dissolved	Primary Result	0.031	mg/L	J	J	V	Result reported below the RL	25012E
HAR-09	1/26/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.52	ug/L	J	J	V	Result reported below the RL	25012E
HAR-09	1/26/2011	Primary Sample	9040B	pH	Primary Result	7.03	pH Units	HTV	J	V	Holding times were exceeded	25012E
HAR-09	1/26/2011	Primary Sample	8315A	Formaldehyde	Primary Result	20	ug/L	J	J	V	Result reported below the RL	25012E
HAR-11	1/20/2011	Primary Sample	8015B	Kerosene Range (C15-C20)	Primary Result	0.16	mg/L	J	J	V	Result reported below the RL	24941A
HAR-11	1/20/2011	Primary Sample	8015B	Diesel Range Organics (C21-C30)	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	24941A
HAR-11	1/20/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.1	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24941A
HAR-11	1/20/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	Primary Result	0.034	mg/L	J	J	V	Result reported below the RL	24941A
HAR-11	1/20/2011	Primary Sample	8260B	trans-1,2-Dichloroethene	Primary Result	0.25	ug/L	J	J	V	Result reported below the RL	24941A
HAR-11	1/20/2011	Primary Sample	8260B SIM	1,4-Dioxane	Primary Result	1.1	ug/L	J	J	V	Result reported below the RL	24941A
HAR-12	1/18/2011	Primary Sample	300.0	Fluoride	Primary Result	0.48	mg/L	J	J	V	Result reported below the RL	24920A
HAR-12	1/18/2011	Primary Sample	6010B	Manganese	Primary Result	0.00073	mg/L	J	J	V	Result reported below the RL	24920A
HAR-12	1/18/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.067	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24920A
HAR-12	1/18/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.00068	mg/L	J	J	V	Result reported below the RL	24920A
HAR-12	1/18/2011	Primary Sample	6010B	Potassium	Primary Result	2.7	mg/L	J	J	V	Result reported below the RL	24920A
HAR-12	1/18/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	2.6	mg/L	J	J	V	Result reported below the RL	24920A
HAR-12	1/18/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	2.1	ug/L	J	J	V	Result reported below the RL	24920A
HAR-12	1/18/2011	Primary Sample	9040B	pH	Primary Result	7.1	pH Units	HTV	J	V	Holding times were exceeded	24920A
HAR-13	1/18/2011	Primary Sample	6010B	Iron, Dissolved	Primary Result	0.026	mg/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	6010B	Manganese, Dissolved	Primary Result	0.00025	mg/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	6010B	Potassium	Primary Result	1.3	mg/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	0.8	mg/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	6010B	Zinc	Primary Result	0.019	mg/L	J	J	V	Result reported below the RL	24920A

TABLE B-3
SUMMARY OF FIRST QUARTER 2011 DATA QUALIFICATION
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
HAR-13	1/18/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.063	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24920A
HAR-13	1/18/2011	Primary Sample	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	Primary Result	1.7	ug/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	8260B	Chloroform	Primary Result	0.66	ug/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	8260B	Carbon Tetrachloride	Primary Result	0.29	ug/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	300.0	Fluoride	Primary Result	0.4	mg/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	8260B	Trichloroethene	Primary Result	0.19	ug/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	314.0	Perchlorate	Primary Result	0.73	ug/L	J	J	V	Result reported below the RL	24920A
HAR-13	1/18/2011	Primary Sample	9040B	pH	Primary Result	6.97	pH Units	HTV	J	V	Holding times were exceeded	24920A
HAR-14	1/18/2011	Primary Sample	300.0	Fluoride	Primary Result	0.4	mg/L	J	J	V	Result reported below the RL	24920A
HAR-14	1/18/2011	Primary Sample	6010B	Iron	Primary Result	0.04	mg/L	J	J	V	Result reported below the RL	24920A
HAR-14	1/18/2011	Primary Sample	6010B	Manganese	Primary Result	0.00083	mg/L	J	J	V	Result reported below the RL	24920A
HAR-14	1/18/2011	Primary Sample	6010B	Potassium	Primary Result	3.2	mg/L	J	J	V	Result reported below the RL	24920A
HAR-14	1/18/2011	Primary Sample	6010B	Zinc	Primary Result	0.0074	mg/L	J	J	V	Result reported below the RL	24920A
HAR-14	1/18/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.087	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24920A
HAR-14	1/18/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	3.1	mg/L	J	J	V	Result reported below the RL	24920A
HAR-14	1/18/2011	Primary Sample	6010B	Zinc, Dissolved	Primary Result	0.0062	mg/L	J	J	V	Result reported below the RL	24920A
HAR-14	1/18/2011	Primary Sample	8260B	Chloroform	Primary Result	0.26	ug/L	J	J	V	Result reported below the RL	24920A
HAR-14	1/18/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.15	ug/L	J	J	V	Result reported below the RL	24920A
HAR-14	1/18/2011	Primary Sample	9040B	pH	Primary Result	7.33	pH Units	HTV	J	V	Holding times were exceeded	24920A
HAR-15	1/21/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.065	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24929B
HAR-15	1/21/2011	Primary Sample	8260B	cis-1,2-Dichloroethene	Primary Result	0.72	ug/L	J	J	V	Result reported below the RL	24929B
HAR-15	1/21/2011	Primary Sample	300.0	Nitrate-NO3	Primary Result	0.75	mg/L	J	J	V	Result reported below the RL	24929B
HAR-15	2/4/2011	Primary Sample	8315A	Formaldehyde	Primary Result	17	ug/L	J	J	V	Result reported below the RL	25012H
HAR-16	1/25/2011	Field Duplicate	300.0	Fluoride	Primary Result	0.34	mg/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Field Duplicate	350.1	Ammonia-N	Primary Result	0.097	mg/L	JB	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Field Duplicate	6010B	Manganese	Primary Result	0.00092	mg/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Field Duplicate	6010B	Potassium	Primary Result	1	mg/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Field Duplicate	6010B	Potassium, Dissolved	Primary Result	0.92	mg/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Field Duplicate	8260B	1,1-Dichloroethene	Primary Result	7.1	ug/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Field Duplicate	8260B	Methylene chloride	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963B
HAR-16	1/25/2011	Field Duplicate	8260B	Trichlorofluoromethane	Primary Result	5.3	ug/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Field Duplicate	9040B	pH	Primary Result	6.6	pH Units	HTV	J	V	Holding times were exceeded	24963B
HAR-16	1/25/2011	Field Duplicate	DV-WC-0077	Hydrazine	Primary Result	1.1	ug/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Field Duplicate	DV-WC-0077	Monomethylhydrazine	Primary Result	1.5	ug/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Primary Sample	350.1	Ammonia-N	Primary Result	0.42	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963B
HAR-16	1/25/2011	Primary Sample	6010B	Potassium	Primary Result	0.94	mg/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	0.97	mg/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Primary Sample	300.0	Fluoride	Primary Result	0.36	mg/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Primary Sample	6010B	Manganese	Primary Result	0.00049	mg/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Primary Sample	8260B	1,1-Dichloroethene	Primary Result	7.2	ug/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Primary Sample	8260B	Methylene chloride	Primary Result	50	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24963B
HAR-16	1/25/2011	Primary Sample	8260B	Trichlorofluoromethane	Primary Result	5.6	ug/L	J	J	V	Result reported below the RL	24963B
HAR-16	1/25/2011	Primary Sample	9040B	pH	Primary Result	6.64	pH Units	HTV	J	V	Holding times were exceeded	24963B
HAR-17	1/20/2011	Primary Sample	6010B	Iron	Primary Result	11	mg/L		J	V	Split sample RPD > CL	24941A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
HAR-17	1/20/2011	Primary Sample	6010B	Iron, Dissolved	Primary Result	0.042	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6010B	Potassium	Primary Result	2.6	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6010B	Potassium, Dissolved	Primary Result	2.5	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.00056	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6010B	Manganese	Primary Result	0.52	mg/L	B	J	V	Split sample RPD > CL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Antimony	Primary Result	0.00017	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Antimony, Dissolved	Primary Result	0.00014	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Arsenic	Primary Result	0.0012	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Cadmium	Primary Result	0.00015	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Cobalt	Primary Result	0.00062	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00062	mg/L	JB	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Copper	Primary Result	0.023	mg/L		J	V	Split sample RPD > CL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Selenium	Primary Result	0.0024	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Thallium	Primary Result	0.000067	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Thallium, Dissolved	Primary Result	0.00005	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Tin	Primary Result	0.00043	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	24941A
HAR-17	1/20/2011	Primary Sample	6020	Cadmium, Dissolved	Primary Result	0.00011	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Chromium	Primary Result	0.0038	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Chromium, Dissolved	Primary Result	0.0027	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Lead, Dissolved	Primary Result	0.00039	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Selenium, Dissolved	Primary Result	0.0042	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Silver	Primary Result	0.000016	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Silver, Dissolved	Primary Result	0.000022	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Tin, Dissolved	Primary Result	0.00018	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Vanadium	Primary Result	0.0023	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.00022	mg/L	J	J	V	Result reported below the RL	24941A
HAR-17	1/20/2011	Split Sample	6010B	Manganese	Primary Result	0.75	mg/L		J	V	Split sample RPD > CL	24963D
HAR-17	1/20/2011	Split Sample	6020	Antimony	Primary Result	0.00031	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Arsenic	Primary Result	0.0016	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6010B	Iron	Primary Result	19	mg/L		J	V	Split sample RPD > CL	24963D
HAR-17	1/20/2011	Split Sample	6010B	Iron, Dissolved	Primary Result	0.036	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6010B	Potassium	Primary Result	2.8	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6010B	Potassium, Dissolved	Primary Result	2.5	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Chromium	Primary Result	0.0045	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Chromium, Dissolved	Primary Result	0.0034	mg/L	J,B	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Lead, Dissolved	Primary Result	0.00023	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Selenium, Dissolved	Primary Result	0.0025	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Vanadium	Primary Result	0.0029	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Cadmium	Primary Result	0.00015	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Cobalt	Primary Result	0.0007	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Cobalt, Dissolved	Primary Result	0.00057	mg/L	J	J	V	Result reported below the RL	24963D
HAR-17	1/20/2011	Split Sample	6020	Copper	Primary Result	0.038	mg/L		J	V	Split sample RPD > CL	24963D
HAR-17	1/20/2011	Split Sample	6020	Selenium	Primary Result	0.0031	mg/L	J	J	V	Result reported below the RL	24963D
PZ-129	1/26/2011	Primary Sample	6020	Arsenic, Dissolved	Primary Result	0.00064	mg/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	6020	Cadmium, Dissolved	Primary Result	0.00005	mg/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	6020	Cobalt, Dissolved	Primary Result	0.00016	mg/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	6020	Copper, Dissolved	Primary Result	0.00074	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25012E
PZ-129	1/26/2011	Primary Sample	6020	Manganese, Dissolved	Primary Result	0.00041	mg/L	JB	U	V	Presumed contamination from preparation (method) and trip blank	25012E
PZ-129	1/26/2011	Primary Sample	6020	Nickel, Dissolved	Primary Result	0.0018	mg/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	6020	Selenium, Dissolved	Primary Result	0.0088	mg/L	B	U	V	Presumed contamination from preparation (method) and trip blank	25012E

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report
PZ-129	1/26/2011	Primary Sample	6020	Vanadium, Dissolved	Primary Result	0.0013	mg/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	6020	Zinc, Dissolved	Primary Result	0.0023	mg/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	7196A	Hexavalent Chromium	Primary Result	0.004	mg/L	UHTV	UJ	V	Holding times were exceeded	25012E
PZ-129	1/26/2011	Primary Sample	7196A	Hexavalent Chromium, Dissolved	Primary Result	0.004	mg/L	UHTV	UJ	V	Holding times were exceeded	25012E
PZ-129	1/26/2011	Primary Sample	8015B	Diesel Range Organics (C12-C14)	Primary Result	0.11	mg/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	300.0	Phosphate	Primary Result	0.57	mg/L	U	UJ	V	MS recovery was poor	25012E
PZ-129	1/26/2011	Primary Sample	6010B	Iron, Dissolved	Primary Result	0.062	mg/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	8015B	Diesel Range Organics (C8-C30)	Primary Result	0.12	mg/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	8270C	Diethyl phthalate	Primary Result	0.62	ug/L	J	J	V	Result reported below the RL	25012E
PZ-129	1/26/2011	Primary Sample	8270C SIM	Butyl benzyl phthalate	Primary Result	9.6	ug/L	J	U	V	Presumed contamination from field blank or equipment rinse blank	25012E
PZ-129	1/26/2011	Primary Sample	8270C SIM	Di-n-butyl phthalate	Primary Result	9.6	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25012E
PZ-129	1/26/2011	Primary Sample	8260B	Trichloroethene	Primary Result	3.4	ug/L		J	V	Surrogate recovery was outside QC limits.	25012E
PZ-129	1/26/2011	Primary Sample	8270C SIM	Di-n-octyl phthalate	Primary Result	9.6	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25012E
PZ-129	1/26/2011	Primary Sample	8270C SIM	Diethyl phthalate	Primary Result	9.6	ug/L	JB	U	V	Presumed contamination from preparation (method) and trip blank; Presumed contamination from field blank or equipment rinse blank	25012E

TABLE B-3
SUMMARY OF FIRST QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Result Type	Sample Result	Units	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Validation Notes	Validation Report

NOTES AND ABBREVIATIONS

%R - percent recovery
µg/L - micrograms per liter
B - Compound was found in the blank and in the sample.
HTV - holding time was exceeded
J - Result is estimated
LCS/LCSD - laboratory control spike/laboratory control spike duplicate
mg/L - milligrams per liter
MS/MSD - matrix spike/matrix spike duplicate
pg/L - picrograms per liter
QC - quality control
R - Result is rejected
RL - reporting limit
RPD - relative percent difference
RRF - relative response factor
SIM - selective ion monitoring
U - Not detected above the method detection limit (MDL) or reporting limit (RL)
UJ - The result is not detected; however, the RL/MDL is estimated.

ATTACHMENT 1

DATA VALIDATION REPORTS

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 5, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25375:

SDG #	Fraction
280-11896-1	Hydrazine
280-11753-1	1,4-Dioxane, Diesel Range Organics,Hydrazine
280-12215-1	Semivolatiles
280-12173-1	N-Nitrosodimethylamine, Diesel Range Organics
280-11696-1	Diesel Range Organics, Hydrazines
280-11825-1	Diesel Range Organics
280-11638-1	1,4-Dioxane, Hydrazines
280-12249-1	1,4-Dioxane
280-11959-1 280-11563-1	Volatiles
280-1190-1/ S101280-8991	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field

Laboratory, Ventura County CA, April 2010

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual, July 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

1 Week TAT

Attachment 1

EDD Client Select IV

LDC #25375 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1ST Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		SVOA (8270C-SIM)		NDMA (1625)		DRO (8015M)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)									
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11896-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-								
B	280-11753-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
C	280-12215-1	05/02/11	05/09/11	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
D	280-12173-1	05/02/11	05/09/11	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
E	280-11696-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
F	280-11825-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
G	280-11638-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
H	280-12249-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
I	280-11959-1	05/02/11	05/09/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
J	280-11563-1	05/02/11	05/09/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
K	280-1190-1/ S101280-8991	05/04/11	05/11/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2	0	2	0	2	0	2	0								
Total	A/PG			2	0	3	0	1	0	1	0	4	0	1	0	4	0	2	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	26

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

25375ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 12, 2011
LDC Report Date:	May 4, 2011
Matrix:	Water
Parameters:	Volatiles
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11563-1

Sample Identification

RD-96_011211_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-49334/5	1/14/11	Methylene chloride	0.960 ug/L	All samples in SDG 280-11563-1

Sample concentrations were compared to concentrations detected in the method blanks.

The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Sample TB_RD-96_011211A was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-96_011211A	1/12/11	Methylene chloride	0.54 ug/L	All samples in SDG 280-11563-1

Sample EB_RD-96_011211 was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_RD-96_011211	1/12/11	Chloroform	0.69 ug/L	All samples in SDG 280-11563-1

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform	2.5 ug/L	All samples in SDG 280-11563-1

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11563-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11563-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11563-1	RD-96_011211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

LDC #: 25375J1a
SDG #: 280-11563-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level IV

Date: 5/04/11
Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%RSD ≤ 30%
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 25%
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	280-11563-4 (No associated sample, No qual) 280-11563-11 LCS
VIII.	Laboratory control samples	A	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = TB_RD-96_011211A EB = EB_RD-96_011211 (same SDG) FB = FB_011411_19 (from SDG 280-11638-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-96_011211_01	11	MB 280-49334/5	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25375 J1a

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓	NA		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 25375 J1a

VALIDATION FINDINGS CHECKLIST

Reviewer: JVB
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 25375 J1a

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: MC
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: ~~ug/L~~ 1/14/11
Conc. units: ug/L Associated Samples: 1 (ND)

Compound	Blank ID	Sample Identification								
	MB 280-49334/5									
Methylene chloride	0.960									
Acetone										
CRQL										

Blank analysis date:
Conc. units: Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 25375 J1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: VB
2nd Reviewer: L

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 1 (ND)

Compound	TB_RD-96-011211A Blank ID	EB_RD-96-011211 Blank ID	FB-011411_19	Sample Identification						
Sampling Date	01/12/11 →		1/14/11							
E	0.54									
K		0.69	2.5							
CRQL										

Blank units: **Associated sample units:**

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples:

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 25375 J1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound
S= Standard deviation of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (RRF 10 std)	Recalculated RRF (RRF 10 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	12/22/2010	Trichloroethene (IS1)	0.3365	0.3365	0.3256	0.3256	2.5	2.5
	GC MSV R2		Ethylbenzene (IS2)	2.0432	2.0432	1.9891	1.9891	2.4	2.4

Conc IS/Cpd	Area cpd	Area IS
12.5/10	375917	1396353
12.5/10	446170	272966
12.5/10		

Conc	Trichloroethene	Ethylbenzene	
0.3	0.3193	2.0320	
1	0.3229	1.9672	
2	0.3234	2.0229	
5	0.3135	1.9921	
10	0.3365	2.0432	
30	0.3330	1.9572	
60	0.3307	1.9088	
X =	0.3256	1.9891	#DIV/0!
S =	0.0081	0.0481	#DIV/0!

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25375 J1a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	(IS)	Average RRF (Initial)	Reported RRF (CCV)	Recalculated RRF (CCV)	Reported % D	Recalculated %D
1	RR0220	1/14/2011	Trichloroethene	(IS1)	0.3256	0.3805	0.3805	16.9	16.9
	GC MSV R2		Ethylbenzene	(IS2)	1.9891	2.1010	2.1010	5.6	5.6

CCV1

Cis/Cx	Compound	(IS)	Ax	Ais
12.5/10	Trichloroethene	(IS1)	529457	1739253
12.5/10	Ethylbenzene	(IS2)	621342	369671
12.5/10				

LDC #: 25375 J19

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	11.5	11.51	100	100	0
1,2-Dichloroethane-d4	↓	9.35	81	81	↓
Toluene-d8		11.78	102	102	
Bromofluorobenzene		10.25	89	89	

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 25375 J1a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: LCS 280-49334/4

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	5.00	NA	5.5	NA	110	110				
Trichloroethene			5.24		105	105				
Benzene			5.24		105	105				
Toluene			5.19		104	104				
~~Chlorobenzene~~										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25375 J1a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. # 1 Ethylbenzene

Conc. = $\frac{(10023)(12.5)(\quad)}{(353821)(1.9899)(\quad)(\quad)}$

= 0.18 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 5, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25375:

SDG #	Fraction
280-11896-1	Hydrazine
280-11753-1	1,4-Dioxane, Diesel Range Organics,Hydrazine
280-12215-1	Semivolatiles
280-12173-1	N-Nitrosodimethylamine, Diesel Range Organics
280-11696-1	Diesel Range Organics, Hydrazines
280-11825-1	Diesel Range Organics
280-11638-1	1,4-Dioxane, Hydrazines
280-12249-1	1,4-Dioxane
280-11959-1 280-11563-1	Volatiles
280-1190-1/ S101280-8991	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field

Laboratory, Ventura County CA, April 2010

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual, July 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

1 Week TAT

Attachment 1

EDD Client Select IV

LDC #25375 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1ST Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		SVOA (8270C-SIM)		NDMA (1625)		DRO (8015M)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)											
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11896-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-								
B	280-11753-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
C	280-12215-1	05/02/11	05/09/11	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
D	280-12173-1	05/02/11	05/09/11	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
E	280-11696-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
F	280-11825-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
G	280-11638-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
H	280-12249-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
I	280-11959-1	05/02/11	05/09/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
J	280-11563-1	05/02/11	05/09/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
K	280-1190-1/ S101280-8991	05/04/11	05/11/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2	0	2	0	2	0	2	0								
Total	A/PG			2	0	3	0	1	0	1	0	4	0	1	0	4	0	2	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	26

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 14, 2011
LDC Report Date:	May 4, 2011
Matrix:	Water
Parameters:	1,4-Dioxane
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11638-1

Sample Identification

RD-85_011411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 25.0% for all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample TB_RD-85_011411 was identified as a trip blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason
280-11638-1	RD-85_011411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 25375G1b

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-11638-1

Level IV

Laboratory: Test America Laboratories, Inc.

Date: 5/03/11

Page: 1 of 1

Reviewer: MV

2nd Reviewer: L

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%RSD ≤ 30% no CCCs
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 25% 1
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = TB_RD-85_011411

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-~~55B~~ 85_011411_01	11	MB 280-49897	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25375 G16

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: W

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 25375G1b

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: [signature]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC # 25375G16

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Ax = Area of Compound
Cx = Concentration of compound
S= Standard deviation of the RRFs

Ais = Area of associated internal standard
Cis = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (RRF 5 std)	Recalculated RRF (RRF 5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	1/17/2011	1,4-Dioxane (FBZ)	0.0008	0.0008	0.0008	0.0008	14.9	14.9
	GC MSV Z								

Cis/Cx	Ax	Ax
12.5/5	1397	4373412

Conc	Ax	Ais	RRF
2.0	473	4307688	0.000686
2.5	923	4297819	0.001074
3.5	1028	4332776	0.000847
5.0	1397	4373412	0.000799
7.5	2132	4265035	0.000833
17.5	5116	4363329	0.000837
X =			0.000846
S =			0.00013

LDC # 25375 G 1b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	CCV Conc	Reported (Conc)	Recalculated (Conc)	Reported % D	Recalculated %D
1	g2_440	1/18/2011	1,4-Dioxane (FBZ)	5.0000	3.9740	3.9744	20.5	20.5
	GC MSV G2							

CCV1

Compound (IS)	RRF	Ais	Ais
1,4-Dioxane (FBZ)	0.00085	1229	4568379

LDC #: 25375 G16

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4	10.0	11.57	116	116	0
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 25375G1b

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: LCS/D 280-49894/4,27

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,4-Dioxane	5.0	5.0	3.77	4.04	75	75	81	81	7	7
~~1,1-Dichloroethene~~										
Trichloroethene										
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25375 G1b

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 1, 1,4-Dioxane

Conc. = $\frac{(202)(12.5)(\quad)}{(371043)(0.000846)(\quad)(\quad)}$

= 0.804 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

0.8

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: May 3, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1

Sample Identification

RD-55B_011411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995 .

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method with the following exceptions:

Method Blank ID	Compound	Maximum Concentration	Associated Samples
ICB/CCB	Hydrazine	1.1120 ug/L	All samples in SDG 280-11638-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-55B_011411_01	Hydrazine	1.15 ug/L	5.0U ug/L

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1	RD-55B_011411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11638-1	RD-55B_011411_01	Hydrazine	5.0U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 25375G76 **VALIDATION COMPLETENESS WORKSHEET** Date: 5-31-11
SDG #: 280-11638-1 Level IV Page: 1 of 1
Laboratory: Test America, Inc. Reviewer:
2nd Reviewer:

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
IIa.	Initial calibration	A	r > 0.995
IIb.	Calibration verification/ICV	A	%R
III.	Blanks	~~SW~~	
IVa.	Surrogate recovery	N	Not required
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-55B_011411_01	11	~~SW~~	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25375676

VALIDATION FINDINGS CHECKLIST

Reviewer: CR
2nd Reviewer: V

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients > 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 25375G76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
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		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments:

LDC #: 25375G76

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: CR
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: ug/L **Associated Samples:** All **Reason Code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit									
	PB	ICB/CCB (ug/L)		1								
Hydrazine		1.1120	5.56	1.15/5.0U								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 25355G76

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: QR
2nd Reviewer: [illegible]

Method: Inorganics, Method see cover

The correlation coefficient (r) for the calibration of Hydrazine was recalculated. Calibration date: 1/18/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100 / True

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Hydrazine	s1	5.0	0.0048	*0.999549*	0.999599	Y
		s2	10	0.0098			
		s3	20	0.02			
		s4	50	0.05			
		s5	80	0.08			
		s6	100	0.11			
Calibration verification		ICV	25	25,3585	101	—	
Calibration verification		CCV	50	53,4657	107	—	
Calibration verification	↓	↓	↓	51.1794	108	—	↓

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25375G76

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: QR
2nd Reviewer:

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units) ug/L	True / D (units) ug/L	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Hydrazine	51.5	50	103	103	Y
RD-55A-011411-01	Matrix spike sample	↓	(SSR-SR) 26.6	20	133	133	↓
↓	Duplicate sample	↓	26.6	26.7	0	0	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25375G6

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer:

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Hydrazine reported with a positive detect were recalculated and verified using the following equation:

Concentration = Area (912.425) + 1.51

Recalculation: 0.0007(912.425) + 1.51 = 2.1 ug/L

#	Sample ID	Analyte	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Acceptable (Y/N)
	1	Hydrazine	1.5	2.1 (difference due to rounding for cal curve & sample)	Y

Note:

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 5, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25375:

SDG #	Fraction
280-11896-1	Hydrazine
280-11753-1	1,4-Dioxane, Diesel Range Organics,Hydrazine
280-12215-1	Semivolatiles
280-12173-1	N-Nitrosodimethylamine, Diesel Range Organics
280-11696-1	Diesel Range Organics, Hydrazines
280-11825-1	Diesel Range Organics
280-11638-1	1,4-Dioxane, Hydrazines
280-12249-1	1,4-Dioxane
280-11959-1 280-11563-1	Volatiles
280-1190-1/ S101280-8991	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field

Laboratory, Ventura County CA, April 2010

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual, July 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

1 Week TAT

Attachment 1

EDD Client Select IV

LDC #25375 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1ST Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		SVOA (8270C-SIM)		NDMA (1625)		DRO (8015M)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)									
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11896-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-								
B	280-11753-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
C	280-12215-1	05/02/11	05/09/11	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
D	280-12173-1	05/02/11	05/09/11	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
E	280-11696-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
F	280-11825-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
G	280-11638-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
H	280-12249-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
I	280-11959-1	05/02/11	05/09/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
J	280-11563-1	05/02/11	05/09/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
K	280-1190-1/ S101280-8991	05/04/11	05/11/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2	0	2	0	2	0	2	0								
Total	A/PG			2	0	3	0	1	0	1	0	4	0	1	0	4	0	2	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	26

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 18, 2011
LDC Report Date:	May 3, 2011
Matrix:	Water
Parameters:	Hydrazines
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11696-1

Sample Identification

RD-48A_011811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995 .

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method with the following exceptions:

Method Blank ID	Compound	Maximum Concentration	Associated Samples
ICB/CCB	Hydrazine	1.6528 ug/L	All samples in SDG 280-11696-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-48A_011811_01	Hydrazine	2.5 ug/L	5.0U ug/L

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1	RD-48A_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11696-1	RD-48A_011811_01	Hydrazine	5.0U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 25375E76 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/2-4

SDG #: 280-11696-1 Level IV Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: 02

2nd Reviewer: [illegible]

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
IIa.	Initial calibration	A	or $\bar{V}^* > 0.995$
IIb.	Calibration verification/ICV	SW A	20%
III.	Blanks	SW	
IVa.	Surrogate recovery	N	Not required
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: WATER

1	RD-48A_011811_01	11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25315E76

VALIDATION FINDINGS CHECKLIST

Reviewer: CR
2nd Reviewer: V

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients > 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓	ND		
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 25376 76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments:

LDC #: 25375E76

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: OC
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: ug/L **Associated Samples:** All **Reason Code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (ug/L)		1									
Hydrazine		1.6528	8.264	2.5/5.0U									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 25358E6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd Reviewer: [illegible]

Method: Inorganics, Method see case

The correlation coefficient (r) for the calibration of Hydrazine was recalculated. Calibration date: 1/24/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100 / True

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Hydrazine	s1	5.0	0.0055	*0.999766*	0.999784	Y
		s2	10	0.0119			
		s3	20	0.02			
		s4	50	0.06			
		s5	80	0.10			
		s6	100	0.13			
Calibration verification		ICV	25	26,1260	105	-	
Calibration verification		CCV	50	55,9234	112	-	
Calibration verification							

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25375E7B

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: QR
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{Found}{True} \times 100$$

Where,

Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).

True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where,

S = Original sample concentration

D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units) ug/L	True / D (units) ug/L	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Hydrazine	52.4	50	105	105	Y
HAR-13_011811-01	Matrix spike sample	↓	(SSR-SR) 23.2	20	116	116	↓
↓	Duplicate sample	↓	23.3	23.2	0	1	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25315E76

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer:

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Hydrazine reported with a positive detect were recalculated and verified using the following equation:

Concentration = $y = 0.00133333x + 0.002$

Recalculation: ~~0.002 0.00~~ CR

$0.002(746.65) + 1.495446 = 2.9$ µg/L

#	Sample ID	Analyte	Reported Concentration (µg/L)	Calculated Concentration (µg/L)	Acceptable (Y/N)
	1	Hydrazine	2.5	2.9	T

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 18, 2011
LDC Report Date:	May 4, 2011
Matrix:	Water
Parameters:	Diesel Range Organics
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11696-1

Sample Identification

RD-48A_011811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than 20.0%.

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1	All compounds reported below the RL.	J (all detects)	A

VII. System Performance

The system performance was acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1	RD-48A_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 25375E8 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/04/11
SDG #: 280-11696-1 Level IV Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JMC
2nd Reviewer:

METHOD: GC Diesel Range Organics (EPA Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
IIa.	Initial calibration	A	%RSD ≤ 20%
IIb.	Calibration verification/ICV	A	CCV/ICV ≤ 20%
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	A	280-11696-24
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	A	
VI.	Compound Quantitation and CRQLs	A	
VII.	System Performance	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-48A_011811_01	11	MB 280-49636/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25375 E8

VALIDATION FINDINGS CHECKLIST

Reviewer: JVC
2nd Reviewer: ✓

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	✓			
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?		✓		
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

LDC #: 25375E8

VALIDATION FINDINGS WORKSHEET

Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where:
A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (5000 std)	Recalculated CF (5000 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	12/9/2010	C8-C30	2697.3	2697.3	2600.7	2600.7	2.7	2.7
	GCS U2								

Conc (ug/ml)	CF	Response
100	2508.8	
250	2611.9	
1000	2657.1	
5000	2697.3	13486443.0
7500	2540.3	
15000	2588.7	
X =	2600.7	
S =	70.535	

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25375E8

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC_____HPLC_____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = 100 * (N - C)/N Where: N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc	Reported Conc	Recalculated Conc	Reported % D	Recalculated % D
1	018B1801	1/26/2011	C8-C30	5000	5260.00	5255.38	5.1	5.1

	CCV1	
Compound	Area	CF
DRO (C8-C30)	13667576	2600.7

LDC #: 25375 E8

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer:

METHOD: ✓ GC __ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
O-TPH	FID	20	20.25	101	101	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 25375 E8

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: / GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where SSC = Spiked sample concentration
SA = Spike added
SC = Sample concentration
LCS = Laboratory Control Sample
LCSD = Laboratory Control Sample duplicate

RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

LCS/LCSD samples: LCS 280 - 49636 /2-A

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
~~Diesel~~ C28-C30 (8015)	0.806	NA	0.80	NA	100	100				
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25375 E8

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: / GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #1 Compound Name $C_8 - C_{30}$

Concentration = $\frac{(231805)\ (1\ ml)}{(2600.7)\ (958.8)}$ = 0.093 ng/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

0.093

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 5, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25375:

SDG #	Fraction
280-11896-1	Hydrazine
280-11753-1	1,4-Dioxane, Diesel Range Organics,Hydrazine
280-12215-1	Semivolatiles
280-12173-1	N-Nitrosodimethylamine, Diesel Range Organics
280-11696-1	Diesel Range Organics, Hydrazines
280-11825-1	Diesel Range Organics
280-11638-1	1,4-Dioxane, Hydrazines
280-12249-1	1,4-Dioxane
280-11959-1 280-11563-1	Volatiles
280-1190-1/ S101280-8991	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field

Laboratory, Ventura County CA, April 2010

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual, July 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

1 Week TAT

Attachment 1

EDD Client Select IV

LDC #25375 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1ST Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		SVOA (8270C-SIM)		NDMA (1625)		DRO (8015M)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)											
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11896-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-								
B	280-11753-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
C	280-12215-1	05/02/11	05/09/11	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
D	280-12173-1	05/02/11	05/09/11	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
E	280-11696-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
F	280-11825-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
G	280-11638-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
H	280-12249-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
I	280-11959-1	05/02/11	05/09/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
J	280-11563-1	05/02/11	05/09/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
K	280-1190-1/ S101280-8991	05/04/11	05/11/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2	0	2	0	2	0	2	0								
Total	A/PG			2	0	3	0	1	0	1	0	4	0	1	0	4	0	2	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	26

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 19, 2011
LDC Report Date:	May 4, 2011
Matrix:	Water
Parameters:	1,4-Dioxane
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11753-1

Sample Identification

RD-39A_011911_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 25.0% for all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample TB_RD-37_011911 was identified as a trip blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

V. Target Compound Identification

All target compound identifications were within validation criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1	All compounds reported below the RL.	J (all detects)	A

VII. System Performance

The system performance was acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1	RD-43A_020211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

LDC #: 25375D8 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/03/11
SDG #: 280-12173-1 Level IV Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC Diesel Range Organics (EPA Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
IIa.	Initial calibration	A	
IIb.	Calibration verification/ICV	A	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	A	
VI.	Compound Quantitation and CRQLs	A	
VII.	System Performance	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-~~38B~~ 93A 020211_01	11	MB 280-57798/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25375 b8

VALIDATION FINDINGS CHECKLIST

Reviewer: JVC
2nd Reviewer: ~

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

LDC #25775 b1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: AVG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = 100 * (N - C)/N Where: N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc	Reported Conc	Recalculated Conc	Reported % D	Recalculated % D
1	002B0201	2/8/2011	C21-C30	2000	1570.00	1927.09	3.6	3.6

	CCV1	
Compound	Area	CF
DRO (C15-C20)	5025110	2.61E+03

LDC #: 25375 D8

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
a- TPH	FID	20	18.61	93	93	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 25375 D8

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: ___ GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory Control Sample
SC = Sample concentration
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS/D 280-51798/2,3-A

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
~~Diesel~~ C5 - C20 (8015)	0.600	0.600	0.525	0.534	88	88	89	89	✓	✓
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25375 D8

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: V

METHOD: / GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. # 1 Compound Name C21 - C30

Concentration = (1046374)(1000 ml) / (2607.4)(1026.3 mg)(1000 mL) = 0.398 µg/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCALCnew.wpd

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 5, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25375:

SDG #	Fraction
280-11896-1	Hydrazine
280-11753-1	1,4-Dioxane, Diesel Range Organics,Hydrazine
280-12215-1	Semivolatiles
280-12173-1	N-Nitrosodimethylamine, Diesel Range Organics
280-11696-1	Diesel Range Organics, Hydrazines
280-11825-1	Diesel Range Organics
280-11638-1	1,4-Dioxane, Hydrazines
280-12249-1	1,4-Dioxane
280-11959-1 280-11563-1	Volatiles
280-1190-1/ S101280-8991	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field

Laboratory, Ventura County CA, April 2010

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual, July 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

1 Week TAT

Attachment 1

EDD Client Select IV

LDC #25375 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1ST Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		SVOA (8270C-SIM)		NDMA (1625)		DRO (8015M)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)									
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11896-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-								
B	280-11753-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
C	280-12215-1	05/02/11	05/09/11	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
D	280-12173-1	05/02/11	05/09/11	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
E	280-11696-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
F	280-11825-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
G	280-11638-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
H	280-12249-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
I	280-11959-1	05/02/11	05/09/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
J	280-11563-1	05/02/11	05/09/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
K	280-1190-1/ S101280-8991	05/04/11	05/11/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2	0	2	0	2	0	2	0								
Total	A/PG			2	0	3	0	1	0	1	0	4	0	1	0	4	0	2	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	26

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 3, 2011
LDC Report Date:	May 4, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12215-1

Sample Identification

PZ-139_020311_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-52141/1-A	2/7/11	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.00934 ug/L 0.0274 ug/L 0.0941 ug/L 0.123 ug/L	All samples in SDG 280-12215-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-139_020311_01	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.011 ug/L 0.087 ug/L 0.36 ug/L 0.15 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L

Sample EB_PZ-139_020311 was identified as an equipment blank. No semivolatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_020311	2/3/11	Naphthalene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	0.013 ug/L 0.16 ug/L 0.059 ug/L 0.14 ug/L 0.13 ug/L	All samples in SDG 280-12215-1

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No semivolatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Benzo(a)anthracene Chrysene Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.0054 ug/L 0.0037 ug/L 0.0073 ug/L 0.14 ug/L 0.060 ug/L 0.094 ug/L 0.51 ug/L	All samples in SDG 280-12215-1

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-139_020311_01	Naphthalene	0.011 ug/L	10U ug/L
	Bis(2-ethylhexyl)phthalate	0.22 ug/L	10U ug/L
	Butylbenzylphthalate	0.033 ug/L	10U ug/L
	Di-n-butylphthalate	0.087 ug/L	10U ug/L
	Di-n-octylphthalate	0.15 ug/L	10U ug/L
	Diethylphthalate	0.36 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-139_020311_01	PZ-139_020311_36			
Phenanthrene	0.010	10U	200 (≤35)	NQ	-
2-Methylnapthalene	0.0062	10U	200 (≤35)	NQ	-
Naphthalene	0.011	0.0097	13 (≤35)	-	-
Bis(2-ethylhexyl)phthalate	0.22	0.25	13 (≤35)	-	-
Butylbenzyl phthalate	0.033	10U	199 (≤35)	NQ	-
Di-n-butyl phthalate	0.087	0.079	10 (≤35)	-	-
Diethyl phthalate	0.36	0.36	0 (≤35)	-	-
Di-n-octyl phthalate	0.15	0.21	33 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1	PZ-139_020311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12215-1	PZ-139_020311_01	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12215-1	PZ-139_020311_01	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	F

LDC #: 25375C2c **VALIDATION COMPLETENESS WORKSHEET** Date: 5/6/11
SDG #: 280-12215-1 Level IV Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MC
2nd Reviewer: W

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	2 RSD ≤30 % ✓
IV.	Continuing calibration/ICV	A	CCV/ICV ≤25%
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + PZ-139_020311_36
XVII.	Field blanks	SW	FB = FB_011411_19 (SDG 280-11638-1) EB = EB: PZ-139_020311 (Same SDG)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	PZ-139_020311_01	11	MB 280-52141/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25375C2C

VALIDATION FINDINGS CHECKLIST

Reviewer: JVL
2nd Reviewer: [illegible]

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of $\geq$ 0.990?	✓			
Were all percent relative standard deviations (%RSD) $\leq$ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) $\leq$ 25% and relative response factors (RRF) $\geq$ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?	✓			
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?		✓		

LDC #: 25375C2C

VALIDATION FINDINGS CHECKLIST

Reviewer: JV6
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 25375 C2C

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JVG
2nd Reviewer: ~

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 2/07/11 **Blank analysis date:** 2/09/11
Conc. units: ug/L Associated Samples: 1

Compound	Blank ID	Sample Identification							
MB	280-52141/1-A	1							
S	0.00934		0.011 / 16 U						
XX	0.0274		0.087 /						
LL	0.0941		0.36 /						
FFF	0.123		0.15 /						

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 25375 C 2C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: SVG
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 2/03/11 ; 1/14/11
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples: 1

Compound	FB 1/14/11 Blank ID	EB 2/03/11	Sample Identification						
	FB_011411_19	EB_PZ-139_020311	1						
CCC	0.0054								
DDD	0.0037								
S	0.0073	0.013	0.011/10U						
EEE	0.14	0.16	0.22/10U						
AAA	0.060		0.033/						
XX	0.094	0.059	0.087/						
FFF	0.51	0.14	0.15/						
LL		0.13	0.36/						

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples:_____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC#:24989O2c

VALIDATION FINDINGS WORKSHEET
Field Duplicate

Reviewer: JM
2nd Reviewer:

METHOD: GC MS PAHs (EPA SW 846 Method 8270C-SIM)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

PZ-139-020311-34

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent Only)
	A 1	B		
Phenanthrene	0.010	10U	200	NQ
2-Methylnapthalene	0.0062	10U	200	NQ
Naphthalene	0.011	0.0097	13	
Bis(2-ethylhexyl)phthalate	0.22	0.25	13	
Butylbenzyl phthalate	0.033	10U	199	NQ
Di-n-butyl phthalate	0.087	0.079	10	
Diethyl phthalate	0.36	0.36	0	
Di-n-octyl phthalate	0.15	0.21	33	

LDC #: 25375C2C
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C-SIM)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (600 std)	Recalculated RRF (600 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	2/3/10	Naphthalene (ANT)	1.6042	1.6042	1.6426	1.6426	4.6	4.6
	SV3		Phenanthrene (PHN)	1.0849	1.0849	1.0560	1.0560	5.7	5.7
			Chrysene (CRY)	1.1040	1.1040	1.1105	1.1105	10.4	10.5

Conc IS/Cpd	Area cpd	Area IS
600/600	273523	170506
600/600	232828	214601
600/600	152504	138132

Conc	Naphthalene	Phenanth	Chrysene
20	1.7309	1.1258	
100	1.6599	0.9432	1.3021
300	1.7166	1.0443	1.1567
600	1.6042	1.0849	1.1040
1200	1.6228	1.0956	1.1037
2500	1.6595	1.0734	1.0427
5000	1.5041	1.0247	0.9538
X =	1.6426	1.0560	1.1105
S =	0.07627	0.05975	0.11669

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 75375C2C
SDG # See Cover

VALIDATION FINDINGS WORSHEET
Continuing Calibration Results Verification

Reviewer: JMe
2nd Reviewer: [illegible]

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C-SIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1								
			See ICAL					

CCV1

Compound	Area Cpd	Area IS
Naphthalene	(IS2)	
Fluorene	(IS3)	
Phenanthrene	(IS4)	
Chrysene	(IS5)	
Benzo(a)pyrene	(IS6)	

LDC #: 28375 C2c

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd reviewer:

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	500	557.2	111 ~~107~~	111	0
2-Fluorobiphenyl	↓	537.3	107	107	↓
Terphenyl-d14	↓	552.3	110	110	↓
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 25375C2C

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: DMe
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS/D 280-52141/2,3-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene	0.900	0.900	0.767	0.701	85	85	78	78	9	9
Pentachlorophenol										
Pyrene	0.900	0.900	0.726	0.772	81	81	86	86	6	6

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25375 C2G

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: SVG
2nd reviewer: [signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_t = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_t = Volume of the concentrated extract in microliters (ul)

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. # 1 , Phenanthrene

Conc. = $\frac{(3819)(600)(1\text{ ml})(\quad)(\quad)(\quad)}{(225690)(1.0560)(963\text{ ml})(\quad)(\quad)}$

= 0.00998

≈ 0.010 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 5, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25375:

SDG #	Fraction
280-11896-1	Hydrazine
280-11753-1	1,4-Dioxane, Diesel Range Organics,Hydrazine
280-12215-1	Semivolatiles
280-12173-1	N-Nitrosodimethylamine, Diesel Range Organics
280-11696-1	Diesel Range Organics, Hydrazines
280-11825-1	Diesel Range Organics
280-11638-1	1,4-Dioxane, Hydrazines
280-12249-1	1,4-Dioxane
280-11959-1 280-11563-1	Volatiles
280-1190-1/ S101280-8991	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field

Laboratory, Ventura County CA, April 2010

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual, July 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

1 Week TAT

Attachment 1

EDD Client Select IV

LDC #25375 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1ST Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		SVOA (8270C-SIM)		NDMA (1625)		DRO (8015M)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)											
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11896-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-								
B	280-11753-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
C	280-12215-1	05/02/11	05/09/11	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
D	280-12173-1	05/02/11	05/09/11	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
E	280-11696-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
F	280-11825-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
G	280-11638-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
H	280-12249-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
I	280-11959-1	05/02/11	05/09/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
J	280-11563-1	05/02/11	05/09/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
K	280-1190-1/ S101280-8991	05/04/11	05/11/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2	0	2	0	2	0	2	0								
Total	A/PG			2	0	3	0	1	0	1	0	4	0	1	0	4	0	2	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	26

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	May 4, 2011
Matrix:	Water
Parameters:	1,4-Dioxane
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12249-1

Sample Identification

RD-78_020411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 25.0% for all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Sample TB_RD-71_020411 was identified as a trip blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12249-1	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-12249-1

SDG	Sample	Compound	Flag	A or P	Reason
280-12249-1	RD-78_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

LDC #: 25375H1b

SDG #: 280-12249-1

Laboratory: Test America Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 5/03/11

Page: 1 of 1

Reviewer: SW

2nd Reviewer: ✓

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%RSD ≤ 30% no CCC
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 25% ↓
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = TB_RD-71_020411

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

1	RD-78_020411_01	11	MB 280-53117/6	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25375 #16

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: [signature]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 25375 H1b

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC # 25375 H16

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Ax = Area of Compound
Cx = Concentration of compound
S= Standard deviation of the RRFs

Ais = Area of associated internal standard
Cis = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (RRF 5 std)	Recalculated RRF (RRF 5 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	2/7/2011	1,4-Dioxane (FBZ)	0.0009	0.0009	0.0009	0.0009	10	10
	GC MSV G2								

Cis/Cx
12.5/5

Conc	Ax	Ais	RRF
2.0	750	5150843	0.000910
2.5	859	4967270	0.000865
3.5	1460	4734293	0.001101
5.0	1698	4839582	0.000877
7.5	2705	4602731	0.000979
17.5	6139	5061587	0.000866
X =			0.000933
S =			0.00009

LDC # 25375 H1b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	CCV Conc	Reported (Conc)	Recalculated (Conc)	Reported % D	Recalculated %D
1	g2_1157	2/11/2011	1,4-Dioxane (FBZ)	5.0000	5.2900	5.2859	5.7	5.7
	GC MSV G2							

CCV1

Compound (IS)	RRF	Ais	Ais
1,4-Dioxane (FBZ)	0.00093	2193	5557366

LDC #: 25375 1416

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4	10.0	8.636	86	86	0
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 25375 #16

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: LCS/D 280-531117/3,4

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,4-Dioxane	5.0	5.0	4.51	4.07	90	90	80	80	11	11
~~1,1-Dichloroethene~~										
Trichloroethene										
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25375 H1b

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #1 , #1 1,4-Dioxane

Conc. = $\frac{(3492)(12.5)(\quad)}{(4445480)(0.00093)(\quad)(\quad)}$

= 10.56

≈ 11 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

11

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 5, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25375:

SDG #	Fraction
280-11896-1	Hydrazine
280-11753-1	1,4-Dioxane, Diesel Range Organics,Hydrazine
280-12215-1	Semivolatiles
280-12173-1	N-Nitrosodimethylamine, Diesel Range Organics
280-11696-1	Diesel Range Organics, Hydrazines
280-11825-1	Diesel Range Organics
280-11638-1	1,4-Dioxane, Hydrazines
280-12249-1	1,4-Dioxane
280-11959-1 280-11563-1	Volatiles
280-1190-1/ S101280-8991	Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field

Laboratory, Ventura County CA, April 2010

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual, July 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

1 Week TAT

Attachment 1

EDD Client Select IV

LDC #25375 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1ST Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		SVOA (8270C-SIM)		NDMA (1625)		DRO (8015M)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)											
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11896-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-								
B	280-11753-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
C	280-12215-1	05/02/11	05/09/11	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
D	280-12173-1	05/02/11	05/09/11	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
E	280-11696-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
F	280-11825-1	05/02/11	05/09/11	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
G	280-11638-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-								
H	280-12249-1	05/02/11	05/09/11	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
I	280-11959-1	05/02/11	05/09/11	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
J	280-11563-1	05/02/11	05/09/11	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
K	280-1190-1/ S101280-8991	05/04/11	05/11/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2	0	2	0	2	0	2	0								
Total	A/PG			2	0	3	0	1	0	1	0	4	0	1	0	4	0	2	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	26

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 25, 2011
LDC Report Date:	May 3, 2011
Matrix:	Water
Parameters:	Hydrazines
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11896-1

Sample Identification

HAR-16_012511_36

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

A curve fit, based on the initial calibration, was established for quantitation. The correlation coefficient (r) was greater than or equal to 0.995 .

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_012511_36 and HAR-16_012511_01 were identified as split samples. No hydrazines were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-16_012511_01	HAR-16_012511_36			
Hydrazine	0.67U	1.1	49 (≤35)	NQ	-
Monomethyl hydrazine	0.24U	1.5	145 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-1	HAR-16_012511_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

LDC #: 25375A76 **VALIDATION COMPLETENESS WORKSHEET** Date: 5-2-11
SDG #: 280-11896-1 Level IV Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: W

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
IIa.	Initial calibration	A	$r^* > 0.995$
IIb.	Calibration verification/ICV	A	20%
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not required
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(1) HAR-16_012511_01 (this SDG)
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	HAR-16_012511_36	11	FB-W	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25351A16

VALIDATION FINDINGS CHECKLIST

Reviewer: CR
2nd Reviewer: W

Method: Inorganics (EPA Method See Cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients > 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
X. Field blanks				
Field blanks were identified in this SDG.		✓	✓	
Target analytes were detected in the field blanks.			✓	

LDC #: 25375A76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: ~

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

25375A76
LDC# ~~24963B76~~

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [signature]
2nd Reviewer: [signature]

Hydrazines, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	HAR-160125II_01	A1		
Hydrazine	0.67U	1.1	49	No Qual (<5xRL)
Monomethyl Hydrazine	0.24U	1.5	145	No Qual (<5xRL)

V:\FIELD DUPLICATES\FD_inorganic\24963B76.wpd

LDC #: 25375A76

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: CR
2nd Reviewer: [illegible]

Method: Inorganics, Method see cover

The correlation coefficient (r) for the calibration of Hydrazine was recalculated. Calibration date: 1/27/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100 / True Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Hydrazine	s1	5.0	1.348	*0.999875*	0.999776	Y
		s2	10	2.936			
		s3	20	6.17			
		s4	50	15.22			
		s5	80	25.27			
		s6	100	31.61			
Calibration verification	MMH	ICV	25	26.8633	107	—	
Calibration verification	Hydrazine	CCV	50	46.8735	94	—	
Calibration verification	MMH	↓	↓	48.4967	97	—	↓

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25385A76

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: QR
2nd Reviewer: L

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Hydrazine	48	50	96	96	Y
HAR-04_0125111_01	Matrix spike sample	Monomethyl Hydrazine	(SSR-SR) 21.4	20	107	107	↓
↓	Duplicate sample	Hydrazine	21.9	22.8	4	4	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 29375A76

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer:

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Hydrazine reported with a positive detect were recalculated and verified using the following equation:

Concentration = $y = 0.3169x - 0.2380$

Recalculation: $\frac{0.097 + 0.2380}{0.3169} = 1.057$ ug/L

#	Sample ID	Analyte	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Acceptable (Y/N)
	1	Hydrazine	1.1	1.1	Y
		Monomethyl Hydrazine	1.5	1.5	↓

Note:

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 17, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on May 12, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25450:

SDG #	Fraction
280-11619-1/S101159-8987	Gross Alpha & Beta, Strontium-90

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual, July 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

Pei Geng
Project Manager/Senior Chemist

V:\LOGIN\MWH\Boeing\25450COV.wpd

1 Week TAT

Attachment 1

EDD Client Select IV

LDC #25450 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1ST Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Gross α & β (900.0)		Sr-90 (905.0)																													
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11619-1/ S101159-8987	05/12/11	05/19/11	1	0	1	0																												
Total	A/PG			1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 13, 2011
LDC Report Date:	May 16, 2011
Matrix:	Water
Parameters:	Gross Alpha & Beta
Validation Level:	Level IV
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11619-1/S101159-8987

Sample Identification

RD-98_011311_01D
RD-98_011311_01P
RD-98_011311_01DMS
RD-98_011311_01DMSD
RD-98_011311_01DDUP
RD-98_011311_01PMSD
RD-98_011311_01PDUP

Samples appended with "D" were analyzed as dissolved
Samples appended with "P" were analyzed as particulate

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration were met.

Detector efficiency was determined and a self-absorption curve was generated for each radionuclide of interest.

III. Continuing Calibration

Calibration verification and background determination were performed at the required frequencies. Results were within laboratory control limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All minimum detectable activities met required detection limits.

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11619-1/S101159-8987	All isotopes reported below the RL and above the MDA.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XP. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Data Qualification Summary - SDG 280-11619-1/S101159-8987

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11619-1/ S101159-8987	RD-98_011311_01D RD-98_011311_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

LDC #: 25450A36 (2nd)

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 5-16-11

SDG #: 280-11619-1/S101159-8987

Page: 1 of 1

Laboratory: Test America/EBERLINE Services

Reviewer: CR

2nd Reviewer: W

METHOD: Gross Alpha and Gross Beta (Method 900.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
II.	Initial calibration	A	
III.	Calibration verification	A	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/D, DUP
VI.	Laboratory control samples	A	LCS
VII.	Minimum dectectable activity (MDA)	A	
VIII.	Sample result verification	A	
IX.	Overall assessment of data	A	
X.	Field duplicates	A	
XI.	Field blanks	N	
XII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-98_011311_01D	11		21	FBW	31	
2	RD-98_011311_01P	12		22		32	
3	RD-98_011311_01DMS	13		23		33	
4	RD-98_011311_01DMSD	14		24		34	
5	RD-98_011311_01DDUP	15		25		35	
6	↓ MS	16		26		36	
7	↓ MSD	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=Dissolved; P=Particulate

LDC #: 25450A22

VALIDATION FINDINGS CHECKLIST

Reviewer: CR
2nd Reviewer: W

Method: Radiochemistry (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
II. Calibration				
Were all instruments and detectors calibration as required?	✓			
Were NIST traceable standards used for all calibrations?	✓			
Was the check source identified by activity and radionuclide?	✓			
Were check sources including background counts analyzed at the requiried frequency and within laboratory control limits?	✓			
III. Blanks				
Were blank analyses performed as required?	✓			
Were any activities detected in the blanks greater than the minimum detectable activity (MDA)? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spikes and Duplicates				
Were a matrix spike (MS) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil/ Water.	✓			
Were the MS percent recoveries (%R) within the QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Was a duplicate sample anaylzed at the required frequency of 5% in this SDG?	✓			
Were all duplicate sample duplicate error rations (DER) <1.42?.	✓			
V. Laboratory control samples				
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 75-125%	✓			
VI. Sample Chemical/Carrier Recovery				
Was a tracer/carrier added to each sample?			✓	
Were tracer/carrier recoveries within the QC limits?			✓	
VII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
VIII. Sample Result Verification				
Were activities adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were the Minimum Detectable Activities (MDA) < RL?	✓			

Validation Area	Yes	No	NA	Findings/Comments
IX. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XI. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 25801Z2

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Radiochemistry (Method: See cover)

Percent recoveries (%R) for a laboratory control sample, a matrix spike and a matrix spike duplicate sample were recaluculated using the following formula:

%R = Found / True x 100 Where, Found = activity of each analyte measured in the analysis of the sample.
True = activity of each analyte in the source.

A matrix spike and matrix spike duplicate relative percent difference (RPD) was recalculated using the following formula:

RPD = |S-D| / (S+D)/2 x 100 Where, S = Original sample activity
D = Duplicate sample activity

Sample ID	Type of Analysis	Analyte	Found/S (pCi/L)	True/D (pCi/L)	Recalculated %R or RPD	Reported %R or RPD	Acceptable (Y/N)
LCS	Laboratory control sample	GrossA	33.6	40.4	83	83	Y
3	Matrix spike sample	GrossB	210	206	102	102	↓
5	Duplicate RPD	GrossB	105	113	7	7	↓
N	Chemical recovery						

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25450A22

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer:

METHOD: Radiochemistry (Method: see cover)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?

Analyte results for Gross β reported with a positive detect were recalculated and verified using the following equation:

Concentration = $\frac{(cpm - background)}{2.22 \times E \times SA \times Vol}$

E = Counter Efficiency
SA = Self-absorbance factor
Vol = Volume of sample

Recalculation:

$$\frac{\left(\left(\frac{4052\ cts}{400\ min} - 1.152\ cpm\right) - \left(\frac{52\ cts}{400\ min} - 0.018\ cpm\right)\right)(0.292)(1.016)}{(2.22)(0.426)(0.085\ L)} = 113\ pCi/L$$

#	Sample ID	Analyte	Reported Concentration (pCi/L)	Calculated Concentration (pCi/L)	Acceptable (Y/N)
	1	Gross α	4.00	4.07	Y
		Gross β	113	113	↓

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 13, 2011

LDC Report Date: May 16, 2011

Matrix: Water

Parameters: Strontium-90

Validation Level: Level IV

Laboratory: TestAmerica Laboratories, Inc./Eberline Services

Sample Delivery Group (SDG): 280-11619-1/S101159-8987

Sample Identification

RD-98_011311_01D
RD-98_011311_01P
RD-98_011311_01DMS
RD-98_011311_01DMSD
RD-98_011311_01DDUP
RD-98_011311_01PMSD
RD-98_011311_01PDUP

Samples appended with "D" were analyzed as dissolved
Samples appended with "P" were analyzed as particulate

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration were met.

Detector efficiency was determined for each radionuclide of interest.

III. Continuing Calibration

Calibration verification and background determination was performed at the required frequencies.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field duplicates were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Carrier Recovery

All carrier recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All sample result verifications were acceptable.

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11619-1/S101159-8987	All isotopes reported below the RL and above the MDA.	J (all detects)	A

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Strontium-90 - Data Qualification Summary - SDG 280-11619-1/S101159-8987

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11619-1/ S101159-8987	RD-98_011311_01D RD-98_011311_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr, 2011
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

LDC #: 25450A61 **VALIDATION COMPLETENESS WORKSHEET** Date: 5-16-11
SDG #: 280-11619-1/S101159-8987 Level IV Page: 1 of 1
Laboratory: Test America/EBERLINE Services Reviewer: CR
2nd Reviewer:

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
II.	Initial calibration	A	
III.	Calibration verification	A	
IV.	Blanks	A	
V.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/D, DUP
VI.	Laboratory control samples	A	LCS
VII.	Carrier recovery	A	
VIII.	Minimum dectectable activity (MDA)	A	
IX.	Sample result verification	A	
X.	Overall assessment of data	A	
XI.	Field duplicates	N	
XII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-98_011311_01D	11		21	PBW	31	
2	RD-98_011311_01P	12		22		32	
3	RD-98_011311_01DMS	13		23		33	
4	RD-98_011311_01DMSD	14		24		34	
5	RD-98_011311_01DDUP	15		25		35	
6	↓ PMS	16		26		36	
7	↓ PMSD	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=Dissolved; P=Particulate

LDC #: 25150A61

VALIDATION FINDINGS CHECKLIST

Reviewer: CR
2nd Reviewer: W

Method: Radiochemistry (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
II. Calibration				
Were all instruments and detectors calibration as required?	✓			
Were NIST traceable standards used for all calibrations?	✓			
Was the check source identified by activity and radionuclide?	✓			
Were check sources including background counts analyzed at the requiried frequency and within laboratory control limits?	✓			
III. Blanks				
Were blank analyses performed as required?	✓			
Were any activities detected in the blanks greater than the minimum detectable activity (MDA)? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spikes and Duplicates				
Were a matrix spike (MS) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS percent recoveries (%R) within the QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Was a duplicate sample anaylzed at the required frequency of 5% in this SDG?	✓			
Were all duplicate sample duplicate error rations (DER) ≤1.42?.	✓			
V. Laboratory control samples				
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 75-125%	✓			
VI. Sample Chemical/Carrier Recovery				
Was a tracer/carrier added to each sample?	✓			
Were tracer/carrier recoveries within the QC limits?	✓			
VII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
VIII. Sample Result Verification				
Were activities adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were the Minimum Detectable Activities (MDA) < RL?	✓			

LDC #: 25450A61

VALIDATION FINDINGS CHECKLIST

Reviewer: CR
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
IX. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XI. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 25450A61

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Radiochemistry (Method: See cover)

Percent recoveries (%R) for a laboratory control sample, a matrix spike and a matrix spike duplicate sample were recaluculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = activity of each analyte measured in the analysis of the sample.
True = activity of each analyte in the source.

A matrix spike and matrix spike duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample activity
D = Duplicate sample activity

Sample ID	Type of Analysis	Analyte	Found/S (~~units~~ pCi/L)	True/D (~~units~~ pCi/L)	Recalculated %R or RPD	Reported %R or RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Sr-90	18.9	17.5	108	108	~~108~~ Y
3	Matrix spike sample	Sr-90	34.4	35	98	98	
5	Duplicate RPD	Sr-90	62.8	64.2	2	2	
1	Chemical recovery	Sr	14.2mg	18.3mg	78	78	

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 52460 (6)

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer: ~

METHOD: Radiochemistry (Method: see cover)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?

Analyte results for Sr-90 reported with a positive detect were recalculated and verified using the following equation:

Concentration = $\frac{(cpm - background)}{2.22 \times E \times SA \times Vol}$

E = Counter Efficiency
SA = Self-absorbance factor
Vol = Volume of sample

Recalculation:

$$\frac{21.264(2.678)}{(2.22)(0.9982)(0.776)(1.0314)(0.5L)} = 64.2\ pCi/L$$

#	Sample ID	Analyte	Reported Concentration (pCi/L)	Calculated Concentration (pCi/L)	Acceptable (Y/N)
	1	Sr-90	64.2	64.2	Y

Note: _____

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

February 23, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on February 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24868:

SDG #	**Fraction**
280-11638-2	N-Nitrosodimethylamine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Uit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Firld Laboratory, Ventura County CA, April 2010
- Site-Wide Water Qality Sampling and Analysis Plan, Sata Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Firld Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

V:\LOGIN\MWH\Boeing\24868COV.wpd

V/IV

Attachment 1

EDD Client Select IV

LDC #24868 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr, 2011)

LDC	SDG#	DATE REC'D	(3) DATE DUE	NDMA (1625)																															
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11638-2	02/02/11	02/24/11	2	0																														

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 14, 2011
LDC Report Date:	February 15, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11638-2

Sample Identification

RS-33_011411_36
FB_RS-33_011411_19

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample FB_RS-33_011411_19 was identified as a field blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

The laboratory indicated the samples were extracted for 8 hours. The method requires the samples be extracted for a minimum of eighteen hours.

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RS-33_011411_36 and RS-33_011411_01 (from SDG 280-11638-1 were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flags	A or P
	RS-33_011411_01	RS-33_011411_36				
N-Nitrosodimethylamine	0.17	0.25	38 (≤35)	-	J (all detects)	A

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11638-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-2	RS-33_011411_36 FB_RS-33_011411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)
280-11638-2	RS-33_011411_36	N-Nitrosodimethylamine	J (all detects)	A	Field duplicates (RPD) (*XVI)

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11638-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11638-2

No Sample Data Qualified in this SDG

LDC #: 24868A2b
SDG #: 280-11638-2
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 2-7-11
Page: 1 of 1
Reviewer: KT
2nd Reviewer: D

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Specified
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SW	
XVI.	Field duplicates	SW	FD = RS-33_011411-01 (SDG 280-11638-1) + 1
XVII.	Field blanks	ND	FB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Aq

1	RS-33_011411_36	11		21		31	280-49884-B/k
2	FB_RS-33_011411_19	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 24868H2b
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Page: 1 of 1
Reviewer: KT
2nd Reviewer: CP

METHOD: X GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

(Y) N N/A Was the overall quality and usability of the data acceptable?

#	Compound Name	Finding	Associated Samples	Qualifications
	NDMA	Samples extracted in 8 Hrs. Method requires min. of 18	ALL	TEXT

Comments: _____

OVRNew.wpd

LDC #: 24868A26
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: KT
2nd reviewer: GR

METHOD: GC/MS NDMA

(X) N N/A Were field duplicate pairs identified in this SDG?
(Y) N N/A Were target compounds detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤35)	QUAL
	RS-33_011411-01	1		
NDMA	0.17	0.25	38	J dets/ND (** XVI)

Compound	Concentration ( )		RPD

Compound	Concentration ( )		RPD

Compound	Concentration ( )		RPD

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

February 25, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 3, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24891:

SDG #	Fraction
280-11563-1/IUA1472/A1A130462 280-11605-1/IUA1471/A1A140421 280-11638-1/IUA1545/A1A170407 280-11646-1/H1A180416 280-11765-1/H1A210464	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, N-Nitrosodimethylamine, Polychlorinated Biphenyls, Metals, Wet Chemistry, Gasoline Range Organics, Diesel Range Organics, Formaldehyde, Hydrazine, Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Uit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Firld Laboratory, Ventura County CA, April 2010
- Site-Wide Water Qality Sampling and Analysis Plan, Sata Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Firld Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV

LDC #24891 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr, 2011)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B)		1,2,3-TCP (524.2)		SVOA (8270C)		PAHs (8270C -SIM)		NDMA (1625)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		GRO (8015B)		DRO (OK-DEQ)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxins (8290)			
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11563-1 /IUA1472 /A1A130462	02/03/11	02/25/11	14	0	8	0	2	0	4	0	-	-	5	0	-	-	-	-	-	-	-	-	4	0	4	0	4	0	-	-	-	-	-	-		
B	280-11605-1 /IUA1471 /A1A140421	02/03/11	02/25/11	15	0	8	0	2	0	2	0	-	-	4	0	-	-	3	0	3	0	2	0	1	0	2	0	2	0	1	0	1	0	-	-		
C	280-11638-1 /IUA1545 /A1A170407	02/03/11	02/25/11	16	0	15	0	1	0	8	0	1	0	10	0	1	0	4	0	4	0	-	-	1	0	7	0	8	0	8	0	8	0	-	-		
D	280-11646-1/ H1A180416	02/03/11	02/25/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0		
E	280-11765-1/ H1A210464	02/03/11	02/25/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0		
Total	T/PG			45	0	31	0	5	0	14	0	1	0	19	0	1	0	7	0	7	0	2	0	6	0	13	0	14	0	9	0	9	0	3	0	0	186

Client Select IV

LDC #24891 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr, 2011)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.2)		Cl SO_4 (300.0)		Br NO_2-N O-PO_4		F NO_3-N (300.0)		Cond. (2510B)		Cr(VI) (7196A)		Diss. Cr(VI) (7196A)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2440C)									
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11563-1	02/03/11	02/25/11	-	-	4	0	-	-	-	-	4	0	-	-	-	-	-	-	8	0	2	0	-	-	-	-								
B	280-11605-1	02/03/11	02/25/11	-	-	2	0	-	-	-	-	2	0	-	-	-	-	-	-	3	0	2	0	-	-	-	-								
C	280-11638-1	02/03/11	02/25/11	1	0	8	0	2	0	2	0	8	0	1	0	1	0	1	0	7	0	6	0	1	0	1	0								
Total	T/PG			1	0	14	0	2	0	2	0	14	0	1	0	1	0	1	0	18	0	10	0	1	0	1	0	0	0	0	0	0	0	0	0	0	66

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 12, 2011

LDC Report Date: February 16, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11563-1

Sample Identification

EB_RD-96_011211
RD-96_011211_01
TB_RD-96_011211A
RD-05A_011211_01
RD-05B_011211_01
WS-09A_011211_01
TB_WS-09A_011211
RD-59A_011211_01
RD-59B_011211_01
RD-59B_011211_36
RD-59C_011211_01
TB_RD-59C_011211
RD-68A_011211_01
RD-68B_011211_01
RD-05A_011211_01MS
RD-05A_011211_01MSD
WS-09A_011211_01MS
WS-09A_011211_01MSD

Introduction

This data review covers 18 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-49334/5	1/14/11	Methylene chloride	0.960 ug/L	EB_RD-96_011211 RD-96_011211_01 TB_RD-96_011211A RD-05A_011211_01 RD-05B_011211_01 WS-09A_011211_01 TB_WS-09A_011211 RD-59A_011211_01 RD-59B_011211_01 RD-59B_011211_36 RD-59C_011211_01 TB_RD-59C_011211 RD-68A_011211_01 RD-68B_011211_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_RD-96_011211A	Methylene chloride	0.54 ug/L	5.0U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_WS-09A_011211	Methylene chloride	0.76 ug/L	5.0U ug/L

Samples TB_RD-96_011211A, TB_WS-09A_011211 and TB_RD-59C_011211 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-96_011211A	1/12/11	Methylene chloride	0.54 ug/L	RD-96_011211_01
TB_WS-09A_011211	1/12/11	Methylene chloride	0.76 ug/L	WS-09A_011211_01

Sample EB_RD-96_011211 was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_RD-96_011211	1/12/11	Chloroform	0.69 ug/L	RD-96_011211_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform	2.5 ug/L	RD-96_011211_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
EB_RD-96_011211	1,2-Dichloroethane-d4	71 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
TB_RD-96_011211A	Bromofluorobenzene	84 (86-115)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-05B_011211_01	Bromofluorobenzene	83 (86-115)	All TCL compounds	J (all detects) UJ (all non-detects)	P
WS-09A_011211_01	Bromofluorobenzene	84 (86-115)	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects)	A
TB_WS-09A_011211	Bromofluorobenzene	83 (86-115)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-59B_011211_01	Bromofluorobenzene	83 (86-115)	All TCL compounds	J (all detects) UJ (all non-detects)	P
TB_RD-59C_011211	Bromofluorobenzene	85 (86-115)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-68B_011211_01	Bromofluorobenzene	82 (86-115)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
WS-09A_011211_01MS/MSD (WS-09A_011211_01)	1,1,2-Trichloro-1,2,2-trifluoroethane	158 (10-150)	155 (10-150)	-	J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11563-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-59B_011211_01 and RD-59B_011211_36 were identified as field duplicates. No volatiles were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11563-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11563-1	EB_RD-96_011211 TB_RD-96_011211A RD-05B_011211_01 RD-59B_011211_01 TB_WS-09A_011211 TB_RD-59C_011211 RD-68B_011211_01	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-11563-1	WS-09A_011211_01	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-11563-1	WS-09A_011211_01	1,1,2-Trichloro-1,2,2-trifluoroethane	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-11563-1	EB_RD-96_011211 RD-96_011211_01 TB_RD-96_011211A RD-05A_011211_01 RD-05B_011211_01 WS-09A_011211_01 TB_WS-09A_011211 RD-59A_011211_01 RD-59B_011211_01 RD-59B_011211_36 RD-59C_011211_01 TB_RD-59C_011211 RD-68A_011211_01 RD-68B_011211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11563-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11563-1	TB_RD-96_011211A	Methylene chloride	5.0U ug/L	A	B
280-11563-1	TB_WS-09A_011211	Methylene chloride	5.0U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

LDC #: 24891A1a
SDG #: 280-11563-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 2/15/11
Page: 1 of 1
Reviewer: JW
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 9, 10
XVII.	Field blanks	SW	EB = 1 TB = 3, 7, 12 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_RD-96_011211	11	RD-59C_011211_01	21	MB 280-49334/6	31	
2	RD-96_011211_01	12	TB_RD-59C_011211	22	MB 280-49836/6	32	(QAR, Sm4)
3	TB_RD-96_011211A	13	RD-68A_011211_01	23		33	
4	RD-05A_011211_01	14	RD-68B_011211_01	24		34	
5	RD-05B_011211_01	15	RD-05A_011211_01MS	25		35	
6	WS-09A_011211_01	16	RD-05A_011211_01MSD	26		36	
7	TB_WS-09A_011211	17	WS-09A_011211_01MS	27		37	
8	RD-59A_011211_01	18	WS-09A_011211_01MSD	28		38	
9	RD-59B_011211_01 D	19		29		39	
10	RD-59B_011211_36 D	20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24891A1a

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: ~

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 1/14/11
Conc. units: ug/L
Associated Samples: 1-14
Code: B

Compound	Blank ID	Sample Identification								
	MB 280-49334/5		3	7						
Methylene chloride (E)	0.960		0.54/5.0U	0.76/5.0U						
Acetone										
CRQL										

Blank analysis date: 1/19/11
Conc. units: ug/L
Associated Samples:

Compound	Blank ID	Sample Identification								
	MB 280-49836/6									
Methylene chloride (E)	0.402									
Acetone (F)	2.44									
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24891 A1A

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JV6
2nd Reviewer: L

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB FB Associated Samples: 2 (ND)

Compound	FB Blank ID 1	TB Blank ID 3	FB_011411_19	Sample Identification						
Sampling Date	1/12/11	→	1/14/11							
~~Methylene chloride~~ K	0.69		2.5							
~~Acetone~~ E		0.54								
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 6 (ND)

Compound	Blank ID 7	Blank ID	Sample Identification							
Sampling Date	1/12/11									
Methylene chloride E	0.76									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24891A1a

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: VC
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	DCE	71 (80-120)	J/UJ/P (S)
		3	BFB	84 (86-115)	
		5	BFB	83 ( )	✓
		6	BFB	84 ( )	J/UJ/A (All except 6,12,5)
		7	BFB	83 ( )	J/UJ/P
		9	BFB	83 ( )	
		12	BFB	85 ( )	
		14	BFB	87 (✓)	✓

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC #: 29891A1q

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: SG
2nd Reviewer:

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	17/18	TTT	158 (10-150)	155 (10-150)	( )	6	J dets/A (6)
		QQQ	60 (75-120)	67 (75-120)	( )	↓	* No qual
		S	13 (78-122)	15 (78-122)	( )	↓	↓
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		* Parent conc > 4x Spike amt
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 13, 2011

LDC Report Date: February 16, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11605-1

Sample Identification

RD-13_011311_01
TB_RD-13_011311
RD-19_011311_01
RD-18_011311_01
RD-73_011311_01
RD-14_011311_01
TB_RD-14_011311
RD-05C_011311_01
RD-67_011311_01
EB_RD-67_011311
RS-17_011311_01
RD-33B_011311_01
TB_RD-33B_011311
RD-06_011311_01
RS-15_011311_01

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-13_011311, TB_RD-14_011311, and TB_RD-33B_011311 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-14_011311	1/13/11	Methylene chloride	0.37 ug/L	RD-14_011311_01
TB_RD-33B_011311	1/13/11	Acetone	22 ug/L	RD-33B_011311_01 RD-06_011311_01 RS-15_011311_01

Sample EB_RD-67_011311 was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_RD-67_011311	1/13/11	Chloroform	5.8 ug/L	RD-67_011311_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-13_011311_01	1,2-Dichloroethane-d4 Toluene-d8	71 (80-120) 113 (88-110)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-06_011311_01	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-49839/5	1,2-Dichloroethane-d4	77 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11605-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11605-1	RD-13_011311_01 RD-06_011311_01	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-11605-1	RD-13_011311_01 TB_RD-13_011311 RD-19_011311_01 RD-18_011311_01 RD-73_011311_01 RD-14_011311_01 TB_RD-14_011311 RD-05C_011311_01 RD-67_011311_01 EB_RD-67_011311 RS-17_011311_01 RD-33B_011311_01 TB_RD-33B_011311 RD-06_011311_01 RS-15_011311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

LDC #: 24891B1a

SDG #: 280-11605-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/15/11

Page: 1 of 1

Reviewer: JV6

2nd Reviewer: [signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2, 7, 13 EB = 10

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

+ 1	RD-13_011311_01	- 11	RS-17_011311_01	- 21	MB 280-49376/5	31	
- 2	TB_RD-13_011311	- 12	RD-33B_011311_01	- 22	MB 280-49839/5	32	
- 3	RD-19_011311_01	+ 13	TB_RD-33B_011311	23		33	
- 4	RD-18_011311_01	- 14	RD-06_011311_01	24		34	
+ 5 (MX)	RD-73_011311_01	+ 15	RS-15_011311_01	25 (MS, MSD)		35	
+ 6	RD-14_011311_01	16		26		36	
+ 7	TB_RD-14_011311	17		27		37	
- 8	RD-05C_011311_01	18		28		38	
+ 9	RD-67_011311_01	19		29		39	
+ 10	EB_RD-67_011311	20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	lll. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24891 B1C

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

(Y) N /N/A Were field blanks identified in this SDG?

Y (N) N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 6 (ND)

Compound	Blank ID 7	Blank ID	Sample Identification							
Sampling Date	1/13/11									
Methylene chloride (E)	0.37									
Acetone										
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 12, 14, 15 (ND)

Compound	Blank ID 13	Blank ID	Sample Identification							
Sampling Date	1/13/11		12							
~~Methylene chloride~~ F	22									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24891 B1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

(Y) N /N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 9 (ND)

Compound	Blank ID 10	Blank ID	Sample Identification							
Sampling Date	1/13/11									
~~Methylene chloride~~ k	5.8									
Acetone										
Chloroform										
CRQL										

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24891 B1c

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: JW
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	DCE	71 (80-120)	J/UJ/P (S)
			TOL	113 (88-110)	
				( )	
		14	DCE	76 (80-120)	
			↓	( )	
		MB 280-49839/5	↓	77 (↓)	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1

Sample Identification

RD-55B_011411_01
TB_RD-55B_011411
RD-55A_011411_01
RD-58A_011411_01
TB_RD-58A_011411
RD-58B_011411_01
RD-58C_011411_01
RD-58C_011411_36
FDP-890_011411_01
FDP-835_011411_01
TB_FDP-835_011411
FB_011411_19
RD-85_011411_01
TB-RD-85_011411
RD-86_011411_01
RS-33_011411_01
RD-55A_011411_01MS
RD-55A_011411_01MSD

Introduction

This data review covers 18 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-49836/6	1/19/11	Acetone Methylene chloride	2.44 ug/L 0.402 ug/L	TB-RD-85_011411

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB-RD-85_011411	Acetone Methylene chloride	2.9 ug/L 0.48 ug/L	10U ug/L 5.0U ug/L

Samples TB_RD-55B_011411, TB_RD-58A_011411, TB_FDP-835_011411, and TB-RD-85_011411 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-55B_011411	1/14/11	Methylene chloride	0.44 ug/L	RD-55B_011411_01 RD-55A_011411_01
TB_RD-58A_011411	1/14/11	Methylene chloride	0.54 ug/L	RD-58A_011411_01 RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36
TB_FDP-835_011411	1/14/11	Methylene chloride	0.62 ug/L	FDP-890_011411_01 FDP-835_011411_01
TB-RD-85_011411	1/14/11	Acetone Methylene chloride	2.9 ug/L 0.48 ug/L	RD-85_011411_01 RD-86_011411_01 RS-33_011411_01

Sample FB_011411_19 was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform Styrene	2.5 ug/L 0.40 ug/L	No associated samples in this SDG

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-58A_011411_01	Methylene chloride	0.40 ug/L	5.0U ug/L
RD-58B_011411_01	Methylene chloride	0.33 ug/L	5.0U ug/L
RD-58C_011411_36	Methylene chloride	0.32 ug/L	5.0U ug/L
RD-86_011411_01	Methylene chloride	0.32 ug/L	5.0U ug/L
RS-33_011411_01	Methylene chloride	1.1 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-55B_011411_01	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
TB_RD-55B_011411	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-55A_011411_01	1,2-Dichloroethane-d4	71 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	A
RD-58A_011411_01 (1x)	1,2-Dichloroethane-d4	75 (80-120)	All TCL compounds except Trichloroethene	J (all detects) UJ (all non-detects)	A
RD-58A_011411_01 (4x)	1,2-Dichloroethane-d4	78 (80-120)	Trichloroethene	J (all detects) UJ (all non-detects)	A
TB_RD-58A_011411	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-58B_011411_01	1,2-Dichloroethane-d4	77 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-58C_011411_01	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-58C_011411_36	1,2-Dichloroethane-d4	75 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
FDP-890_011411_01 (10x)	1,2-Dichloroethane-d4	76 (80-120)	cis-1,2-Dichloroethene	J (all detects) UJ (all non-detects)	A
FDP-835_011411_01	1,2-Dichloroethane-d4	78 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
TB_FDP-835_011411	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
FB_011411_19	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-85_011411_01	1,2-Dichloroethane-d4	77 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
TB-RD-85_011411	Toluene-d8	111 (88-110)	All TCL compounds	J (all detects)	P
RD-86_011411_01	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RS-33_011411_01 (1x)	1,2-Dichloroethane-d4	78 (80-120)	All TCL compounds except 1,1,2-Trichloro-1,2,2-trifluoroethane Trichloroethene	J (all detects) UJ (all non-detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RS-33_011411_01 (10x)	1,2-Dichloroethane-d4	75 (80-120)	1,1,2-Trichloro-1,2,2-trifluoroethane Trichloroethene	J (all detects) UJ (all non-detects)	A
MB280-49509/4	1,2-Dichloroethane-d4	76 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB280-49839/5	1,2-Dichloroethane-d4	77 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-58C_011411_01 and RD-58C_011411_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RD-58C_011411_01	RD-58C_011411_36			
cis-1,2-Dichloroethene	0.58	0.59	2 (≤35)	-	-
Methylene chloride	5.0U	0.32	176 (≤35)	NQ	-
Vinyl chloride	0.59	0.61	3 (≤35)	-	-

NQ=One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1	RD-55B_011411_01 TB_RD-55B_011411 TB_RD-58A_011411 RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36 FDP-835_011411_01 TB_FDP-835_011411 FB_011411_19 RD-85_011411_01 RD-86_011411_01	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-11638-1	RD-55A_011411_01	All TCL compounds	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-11638-1	RD-58A_011411_01 (1x)	All TCL compounds except Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-11638-1	RD-58A_011411_01 (4x)	Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-11638-1	FDP-890_011411_01 (10x)	cis-1,2-Dichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-11638-1	TB-RD-85_011411	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-11638-1	RS-33_011411_01 (1x)	All TCL compounds except 1,1,2-Trichloro-1,2,2-trifluoroethane Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-11638-1	RS-33_011411_01 (10x)	1,1,2-Trichloro-1,2,2-trifluoroethane Trichloroethene	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-11638-1	RD-55B_011411_01 TB_RD-55B_011411 RD-55A_011411_01 RD-58A_011411_01 TB_RD-58A_011411 RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36 FDP-890_011411_01 FDP-835_011411_01 TB_FDP-835_011411 FB_011411_19 RD-85_011411_01 TB-RD-85_011411 RD-86_011411_01 RS-33_011411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11638-1	TB-RD-85_011411	Acetone Methylene chloride	10U ug/L 5.0U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11638-1	RD-58A_011411_01	Methylene chloride	5.0U ug/L	A	T
280-11638-1	RD-58B_011411_01	Methylene chloride	5.0U ug/L	A	T
280-11638-1	RD-58C_011411_36	Methylene chloride	5.0U ug/L	A	T
280-11638-1	RD-86_011411_01	Methylene chloride	5.0U ug/L	A	T
280-11638-1	RS-33_011411_01	Methylene chloride	10U ug/L	A	T

LDC #: 24891C1a

SDG #: 280-11638-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/16/11

Page: 1 of 1

Reviewer: TVZ

2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 7, 8
XVII.	Field blanks	SW	TB = 2, 5, 11, 14 FB = 12

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-55B_011411_01	11	TB_FDP-835_011411	21	MB 280-49509/4	31	
2	TB_RD-55B_011411	12	FB_011411_19	22	MB 280-49836/6	32	
3	RD-55A_011411_01	13	RD-85_011411_01	23	MB 280-49839/5	33	
4	RD-58A_011411_01	14	TB-RD-85_011411	24		34	
5	TB_RD-58A_011411	15	RD-86_011411_01	25		35	
6	RD-58B_011411_01	16	RS-33_011411_01	26		36	
7	RD-58C_011411_01 D	17	RD-55A_011411_01MS	27		37	
8	RD-58C_011411_36 D	18	RD-55A_011411_01MSD	28		38	
9	FDP-890_011411_01	19		29		39	
10	FDP-835_011411_01	20		30		40	

VOCs + IPA = 1-8, 14, 16

VOCs = 9-13, 15

#4 - split in IUA1434

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	lll. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24691C1A

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: NG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 1/19/11
Conc. units: ug/L
Associated Samples: 1-14
Code: B

Compound	Blank ID	Sample Identification								
	MB 280-49836/6	14								
~~Methylene chloride~~ F	2.44		2.9/10U							
~~Acetone~~ E	0.40Y		0.48/5.0U							
CRQL										

Blank analysis date:
Conc. units:
Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 29891 C1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 1, 3 (ND)

Compound	Blank ID 2	Blank ID	Sample Identification							
Sampling Date	1/14/11									
Methylene chloride (E)	0.44									
Acetone										
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 4, 6-8 Code: T

Compound	Blank ID 5	Blank ID	Sample Identification							
Sampling Date	1/14/11		4	6	8					
Methylene chloride (E)	0.54		0.40/5.04	0.33/5.04	0.32/5.04					
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24891 C1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 9, 10 (MD)

Compound	Blank ID 11	Blank ID	Sample Identification							
Sampling Date	1/14/11									
Methylene chloride (E)	0.62									
Acetone										
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 13, 15, 16 Code: T

Compound	Blank ID 14	Blank ID	Sample Identification							
Sampling Date	1/14/11		15	16						
~~Methylene chloride~~ F	2.9			(65)						
~~Acetone~~ E	0.98		0.32/5.0U	1.1/10U						
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 34891C1C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: None

Compound	Blank ID 12	Blank ID	Sample Identification							
Sampling Date	1/14/11									
~~Methylene chloride~~ K	2.5									
~~Acetone~~ FP	0.40									
Chloroform										
CRQL										

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples:

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24891C1a

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 7
Reviewer: JV
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	DCE	76 (80-120)	J/UJ/P (S)
		2		76 ( )	↓
		3		71 ( )	J/UJ/A
		4 (1x)		75 ( )	J/UJ/A (all except S)
		4 (4x)		78 ( )	↓ (S only)
		5		76 ( )	J/UJ/P
		6		77 ( )	↓
		7		76 ( )	↓
		8		75 ( )	↓
		9 (10x)		76 ( )	J/UJ/A (QQQ only)
		10	✓	78 (✓)	J/UJ/P ✓

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC #: 24891C1Y

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 2 of 2
Reviewer: JVL
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		11	DCE	76 (80-120)	J/UJ/P (S)
		12		76 ( )	
		13		77 ( )	
		14	TOL	111 (88-110)	J dets/P
		15	DCE	76 (80-120)	J/UJ/P
		16 (1x)		78 ( )	J/UJ/A (all except TTT, S)
		16 (10x)		75 ( )	(TTT, S only)
		MB 280-495094/4		76 ( )	J/UJ/P
		MB 280-498394/5		77 ( )	
				( )	
				( )	
				( )	

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC#:24891C1a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer:

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent Only)
	7	8		
cis-1,2-Dichloroethene	0.58	0.59	2	
Methylene chloride	5.0U	0.32	176	No qual (<5xRL)
Vinyl chloride	0.59	0.61	3	

V:\FIELD DUPLICATES\24891C1a.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 12, 2011

LDC Report Date: February 16, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11563-1

Sample Identification

RD-05A_011211_01
TB_RD-05A_011211
RD-05B_011211_01
WS-09A_011211_01
TB_WS-09A_011211
RD-68A_011211_01
TB_RD-68A_011211
RD-68B_011211_01
RD-68B_011211_01MS
RD-68B_011211_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_RD-05A_011211, TB_WS-09A_011211 and TB_RD-68A_011211 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11563-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11563-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11563-1	RD-05A_011211_01 TB_RD-05A_011211 RD-05B_011211_01 WS-09A_011211_01 TB_WS-09A_011211 RD-68A_011211_01 TB_RD-68A_011211 RD-68B_011211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

LDC #: 24891A1b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11563-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: SVG
2nd Reviewer: [signature]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 5, 7

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-05A_011211_01	11	MB 280-49543/17	21		31	
2	TB_RD-05A_011211	12		22		32	
3	RD-05B_011211_01	13		23		33	
4	WS-09A_011211_01	14		24		34	
5	TB_WS-09A_011211	15		25		35	
6	RD-68A_011211_01	16		26		36	
7	TB_RD-68A_011211	17		27		37	
8	RD-68B_011211_01	18		28		38	
9	RD-68B_011211_01MS	19		29		39	
10	RD-68B_011211_01MSD	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 13, 2011
LDC Report Date:	February 16, 2011
Matrix:	Water
Parameters:	1,4-Dioxane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11605-1

Sample Identification

RD-18_011311_01
TB_RD-18_011311
RD-05C_011311_01
TB_RD-05C_011311
RD-67_011311_01
TB_RD-67_011311
EB_RD-67_011311
RD-06_011311_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_RD-18_011311, TB_RD-05C_011311 and TB_RD-67_011311 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Sample EB_RD-67_011311 was identified as an equipment blank. No 1,4-Dioxane contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. The percent recoveries (%R) were within the QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11605-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11605-1	RD-18_011311_01 TB_RD-18_011311 RD-05C_011311_01 TB_RD-05C_011311 RD-67_011311_01 TB_RD-67_011311 EB_RD-67_011311 RD-06_011311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

LDC #: 24891B1b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11605-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: SW
2nd Reviewer: M

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 4, 6 EB = 7

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-18_011311_01	11	MB 280-49604/4	21		31	
2	TB_RD-18_011311	12		22		32	
3	RD-05C_011311_01	13		23		33	
4	TB_RD-05C_011311	14		24		34	
5	RD-67_011311_01	15		25		35	
6	TB_RD-67_011311	16		26		36	
7	EB_RD-67_011311	17		27		37	
8	RD-06_011311_01	18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1

Sample Identification

RD-55B_011411_01
TB_RD-55B_011411
RD-55A_011411_01
RD-58A_011411_01
TB_RD-58A_011411
RD-58B_011411_01
RD-58C_011411_01
RD-58C_011411_36
FDP-890_011411_01
FDP-835_011411_01
TB_FDP-835_011411
FB_011411_19
RD-85_011411_01
TB-RD-85_011411
RS-33_011411_01
RD-55A_011411_01MS
RD-55A_011411_01MSD

Introduction

This data review covers 17 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_RD-55B_011411, TB_RD-58A_011411, TB_FDP-835_011411, and TB-RD-85_011411 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Sample FB_011411_19 was identified a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-58C_011411_01 and RD-58C_011411_36 were identified as field duplicates. No 1,4-Dioxane was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1	RD-55B_011411_01 TB_RD-55B_011411 RD-55A_011411_01 RD-58A_011411_01 TB_RD-58A_011411 RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36 FDP-890_011411_01 FDP-835_011411_01 TB_FDP-835_011411 FB_011411_19 RD-85_011411_01 TB-RD-85_011411 RS-33_011411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 24891C1b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11638-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: Me
2nd Reviewer: V

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 7,8
XVII.	Field blanks	ND	TB = 2, 5, 11, 14 FB = 12

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-55B_011411_01	11	TB_FDP-835_011411	21	MB 280-49609/4	31	
2	TB_RD-55B_011411	12	FB_011411_19	22	MB 280-49894/4	32	
3	RD-55A_011411_01	13	RD-85_011411_01	23	MB 280-50235/5	33	
4	RD-58A_011411_01	14	TB-RD-85_011411	24		34	
5	TB_RD-58A_011411	15	RS-33_011411_01	25		35	
6	RD-58B_011411_01	16	RD-55A_011411_01MS	26		36	
7	RD-58C_011411_01 D	17	RD-55A_011411_01MSD	27		37	
8	RD-58C_011411_36 D	18		28		38	
9	FDP-890_011411_01	19		29		39	
10	FDP-835_011411_01	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 12, 2011
LDC Report Date:	February 16, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11563-1/IU1472

Sample Identification

RD-68A_011211_01
RD-68B_011211_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11563-1/IU1472	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-11563-1/IU1472

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11563-1/IU1472	RD-68A_011211_01 RD-68B_011211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-11563-1/IU1472

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-11563-1/IU1472

No Sample Data Qualified in this SDG

LDC #: 24891A1c **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11563-1/IUA1472 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JV6
2nd Reviewer: V

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates	N	~~✓ client spec~~
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-68A_011211_01	11	IIA1910-BLK1	21		31	
2	RD-68B_011211_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 13, 2011
LDC Report Date:	February 16, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11605-1/IUA1471

Sample Identification

RD-14_011311_01
TB_RD-14_011311

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_RD-14_011311 was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11605-1/IUA1471	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-11605-1/IUA1471

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11605-1/IUA1471	RD-14_011311_01 TB_RD-14_011311	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-11605-1/IUA1471

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-11605-1/IUA1471

No Sample Data Qualified in this SDG

LDC #: 24891B1c **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11605-1/IUA1471 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JK
2nd Reviewer:

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates	N	↓
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-14_011311_01	11	IA 1910-Blk1	21		31	
2	TB_RD-14_011311	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: February 22, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1/IUA1545

Sample Identification

FB_011411_19
FB_011411_19DUP

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample FB_011411_19 was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1/IUA1545	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-11638-1/IUA1545

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1/IUA1545	FB_011411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-11638-1/IUA1545

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-11638-1/IUA1545

No Sample Data Qualified in this SDG

LDC #: 24891C1c

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-11638-1/IUA1545
Level V
Laboratory: Test America, Inc.

Date: 2/22/11
Page: 1 of 1
Reviewer: NV
2nd Reviewer: [signature]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	FB_011411_19	11		21		31	
2	FB_011411_19DUP	12		22		32	
3	IIA 2070-blk1	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 12, 2011

LDC Report Date: February 16, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11563-1

Sample Identification

RD-05A_011211_01
RD-05B_011211_01
RD-68A_011211_01
RD-68B_011211_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11563-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11563-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11563-1	RD-05A_011211_01 RD-05B_011211_01 RD-68A_011211_01 RD-68B_011211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

LDC #: 24891A2a

SDG #: 280-11563-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/15/11

Page: 1 of 1

Reviewer: SW

2nd Reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	RD-05A_011211_01	11	MB 280-48950/1-A	21		31	
2	RD-05B_011211_01	12		22		32	
3	RD-68A_011211_01	13		23		33	
4	RD-68B_011211_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(Nitrobenzenes only)

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 13, 2011
LDC Report Date:	February 16, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11605-1

Sample Identification

RD-05C_011311_01
RD-06_011311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11605-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11605-1	RD-05C_011311_01 RD-06_011311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

LDC #: 24891B2a

SDG #: 280-11605-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/15/11

Page: 1 of 1

Reviewer: YL

2nd Reviewer: ✓

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-05C_011311_01	11	MB 280-49164/1-A	21		31	
2	RD-06_011311_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(Nitrobenzene only)

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1

Sample Identification

RD-55B_011411_01
RD-55A_011411_01
RD-58A_011411_01
RD-58B_011411_01
RD-58C_011411_01
RD-58C_011411_36
FB_011411_19
RS-33_011411_01
RD-55A_011411_01MS
RD-55A_011411_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-49369/1-A	1/17/11	Bis(2-ethylhexyl)phthalate	2.27 ug/L	FB_011411_19

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Sample FB_011411_19 was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
LCS 280-499369/2-A	p-Chloroaniline	39 (52-120)	FB_011411_19 MB 280-49369/1-A	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-58C_011411_01 and RD-58C_011411_36 were identified as field duplicates. No semivolatiles were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1	FB_011411_19	p-Chloroaniline	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-11638-1	RD-55B_011411_01 RD-55A_011411_01 RD-58A_011411_01 RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36 FB_011411_19 RS-33_011411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 24891C2a

SDG #: 280-11638-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/16/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	SW	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 5, 6
XVII.	Field blanks	ND	FB = 7

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	RD-55B_011411_01	11	MB 280-49369/1-A	21		31	
2	RD-55A_011411_01	12		22		32	
3	RD-58A_011411_01	13		23		33	
4	RD-58B_011411_01	14		24		34	
5	RD-58C_011411_01 D	15		25		35	
6	RD-58C_011411_36 D	16		26		36	
7	FB_011411_19	17		27		37	
8	RS-33_011411_01	18		28		38	
9	RD-55A_011411_01MS	19		29		39	
10	RD-55A_011411_01MSD	20		30		40	

Nitrobenzenes = 1-6, 8

8270 Full list = 7

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 24891C2C

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 1/17/11 **Blank analysis date:** 1/20/11
Conc. units: ng/L Associated Samples: 7 (MD)

Compound	Blank ID	Sample Identification								
	MB 280-44369/1-A									
EEE	2.27									

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 49891C2a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?

Y (N) N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS 280-49369/2-A	T	39 (52-120)	( )	( )	7 + Blk	J/UJ/P (L)
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 12, 2011
LDC Report Date:	February 16, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11563-1

Sample Identification

RD-05A_011211_01
RD-05B_011211_01
WS-09A_011211_01
RD-68A_011211_01
RD-68B_011211_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
RD-05A_011211_01	N-Nitrosodimethylamine	8	7	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D280-49059/2,3-A (RD-05B_011211_01 WS-09A_011211_01 RD-68A_011211_01 RD-68B_011211_01 MB280-49059/1-A)	N-Nitrosodimethylamine	131 (68-124)	-	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11563-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11563-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11563-1	RD-05A_011211_01	N-Nitrosodimethylamine	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11563-1	RD-05B_011211_01 WS-09A_011211_01 RD-68A_011211_01 RD-68B_011211_01	N-Nitrosodimethylamine	J (all detects)	P	Laboratory control samples (%R) (L)
280-11563-1	RD-05A_011211_01 RD-05B_011211_01 WS-09A_011211_01 RD-68A_011211_01 RD-68B_011211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

LDC #: 24891A2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11563-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: SW
2nd Reviewer: V

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/12/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client Spec
VIII.	Laboratory control samples	SW	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-05A_011211_01	11	MB 280-49059/1-A	21		31	
2	RD-05B_011211_01	12	MB 280-49687/1-A	22		32	
3	WS-09A_011211_01	13		23		33	
4	RD-68A_011211_01	14		24		34	
5	RD-68B_011211_01	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 19891A2b

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: JY6
2nd Reviewer:

All circled dates have exceeded the technical holding times.
(Y) N N/A Were all cooler temperatures within validation criteria?

METHOD : GC/MS ~~BNA~~ NPMA 1625C (~~EPA SW 846 Method 8270~~)

Sample ID	Matrix	Preserved	Sampling Date	Extraction date	Analysis date	Total # of Days	Qualifier
1	W	N	1/12/11	1/20/11	1/21/11	8	J/UJ/P (H)

TECHNICAL HOLDING TIME CRITERIA

Water: Extracted within 7 days, analyzed within 40 days.
Soil: Extracted within 14 days, analyzed within 40 days.

LDC #: 24891A26

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JV6
2nd Reviewer: _____

METHOD: GC/MS ~~BNA~~ NDMA (EPA ~~SW-846 Method 8270C~~) Method 1625

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?

Y (N) N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS/b 280-49059/2,3-A	NDMA	131 (68-124)	( )	( )	2-5, MB 280-49059/1-A	J (all det.) / p (L)
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 13, 2011
LDC Report Date:	February 16, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11605-1

Sample Identification

RD-05C_011311_01
RD-67_011311_01
EB_RD-67_011311
RD-06_011311_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_RD-67_011311 was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11605-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11605-1	RD-05C_011311_01 RD-67_011311_01 EB_RD-67_011311 RD-06_011311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

LDC #: 24891B2b
SDG #: 280-11605-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 2/15/11
Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	RD-05C_011311_01	11	MB 280-49394/1-A	21		31	
2	RD-67_011311_01	12		22		32	
3	EB_RD-67_011311	13		23		33	
4	RD-06_011311_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1

Sample Identification

RD-55B_011411_01
RD-55A_011411_01
RD-58A_011411_01
RD-58B_011411_01
RD-58C_011411_01
RD-58C_011411_36
FDP-890_011411_0
FDP-835_011411_01
FB_011411_19
RS-33_011411_01
RD-55A_011411_01MS
RD-55A_011411_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample FB_011411_19 was identified as a field blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-58C_011411_01 and RD-58C_011411_36 were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1	RD-55B_011411_01 RD-55A_011411_01 RD-58A_011411_01 RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36 FDP-890_011411_0 FDP-835_011411_01 FB_011411_19 RS-33_011411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 24891C2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11638-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SW
2nd Reviewer: ✓

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 5, 6
XVII.	Field blanks	ND	FB = 9

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water ✓

1	RD-55B_011411_01	11	RD-55A_011411_01MS	21	MB 280-49394/1-A	31	
2	RD-55A_011411_01	12	RD-55A_011411_01MSD	22		32	
3	RD-58A_011411_01	13		23		33	
4	RD-58B_011411_01	14		24		34	
5	RD-58C_011411_01	15		25		35	
6	RD-58C_011411_36	16		26		36	
7	FDP-890_011411_01	17		27		37	
8	FDP-835_011411_01	18		28		38	
9	FB_011411_19	19		29		39	
+ 10	RS-33_011411_01	20		30		40	

(Note: Samples were extracted for 8 hours rather than 18 hrs)

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 14, 2011
LDC Report Date:	February 17, 2011
Matrix:	Water
Parameters:	Polynuclear Aromatic Hydrocarbons
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11638-1

Sample Identification

FB_011411_19

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-49902/1-A	1/21/11	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.146 ug/L 0.0651 ug/L 0.517 ug/L	All samples in SDG 280-11638-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
FB_011411_19	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.14 ug/L 0.094 ug/L 0.51 ug/L	9.8U ug/L 9.8U ug/L 9.8U ug/L

Sample FB_011411_19 was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Benzo(a)anthracene Chrysene Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.0054 ug/L 0.0037 ug/L 0.0073 ug/L 0.14 ug/L 0.060 ug/L 0.094 ug/L 0.51 ug/L	No associated samples in this SDG

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1	FB_011411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11638-1	FB_011411_19	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	9.8U ug/L 9.8U ug/L 9.8U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 24891C2c **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11638-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: V

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	FB = 1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	FB_011411_19	11	MB 280-49902/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(PAH + Phthalates + NDMA)

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 24891 C2C

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: DG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Code B

Blank extraction date: 1/21/11 **Blank analysis date:** 1/24/11
Conc. units: ug/L Associated Samples: All

Compound	Blank ID	Sample Identification								
	MB 280-49902/1-A	1								
EEE	0.146		0.14/9.8 U							
XX	0.0651		0.094/							
FFF	0.517		0.51/							

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24891C2c

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MC
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** NA
Sampling date: 1/19/11
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: None

Compound	Blank ID	Sample Identification								
	1									
~~Diethylphthalate~~ CCC	0.0054									
~~Di-n-butylphthalate~~ DDD	0.0037									
Bis(~~2-ethylhexyl~~)phthalate S	0.0073									
EEE	0.14									
AAA	0.060									
XX	0.094									
CRQL FFF	0.51									

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Diethylphthalate										
Di-n-butylphthalate										
Bis(2-ethylhexyl)phthalate										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 14, 2011
LDC Report Date:	February 17, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11638-1

Sample Identification

FB_011411_19

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample FB_011411_19 was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1	FB_011411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 24892C3b

VALIDATION COMPLETENESS WORKSHEET

Level V

SDG #: 280-11638-1

Laboratory: Test America, Inc.

Date: 2/16/11

Page: 1 of 1

Reviewer: JV6

2nd Reviewer:

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	FB = 1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	FB_011411_19	11	MB 280-49696/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 13, 2011

LDC Report Date: February 23, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11605-1

Sample Identification

RD-13_011311_01
EB-PZ-041_011311
PZ-041_011311_01
RD-13_011311_01F
EB-PZ-041_011311F
PZ-041_011311_01F
RD-13_011311_01FMS
RD-13_011311_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese Nickel Thallium Tin Zinc	0.000690 mg/L 0.000873 mg/L 0.0000229 mg/L 0.000460 mg/L 0.00211 mg/L	RD-13_011311_01F EB-PZ-041_011311F PZ-041_011311_01F
PB (prep blank)	Copper	0.00199 mg/L	EB-PZ-041_011311F PZ-041_011311_01F
PB (prep blank)	Manganese Thallium Tin	0.000920 mg/L 0.0000386 mg/L 0.000233 mg/L	RD-13_011311_01 EB-PZ-041_011311 PZ-041_011311_01

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-13_011311_01F	Nickel Thallium Tin	0.0021 mg/L 0.000061 mg/L 0.00024 mg/L	0.0021U mg/L 0.000061U mg/L 0.00024U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-041_011311_01F	Nickel Thallium Zinc Copper	0.0028 mg/L 0.000020 mg/L 0.0085 mg/L 0.0010 mg/L	0.0028U mg/L 0.000020U mg/L 0.0085U mg/L 0.0010U mg/L
RD-13_011311_01	Thallium Tin	0.000068 mg/L 0.00037 mg/L	0.000068U mg/L 0.00037U mg/L
EB-PZ-041_011311	Manganese Tin	0.00034 mg/L 0.00038 mg/L	0.00034U mg/L 0.00038U mg/L
PZ-041_011311_01	Thallium Tin	0.000031 mg/L 0.00063 mg/L	0.000031U mg/L 0.00063U mg/L

Samples EB-PZ-041_011311 and EB-PZ-041_011311F were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB-PZ-041_011311	1/13/10	Calcium Manganese Sodium Tin	0.055 mg/L 0.00034 mg/L 0.21 mg/L 0.00038 mg/L	PZ-041_011311_01
EB-PZ-041_011311F	1/13/11	Calcium Sodium	0.060 mg/L 0.14 mg/L	PZ-041_011311_01F

Samples FB-011411_19 and FB-011411_19F (both from SDG 280-11638-1) were identified as field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB-011411_19	1/14/10	Calcium Manganese Sodium Silver Tin	0.048 mg/L 0.00030 mg/L 0.097 mg/L 0.000097 mg/L 0.00082 mg/L	PZ-041_011311_01
FB-011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-041_011311_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-041_011311_01	Tin	0.00063 mg/L	0.00063U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11605-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11605-1	RD-13_011311_01 EB-PZ-041_011311 PZ-041_011311_01 RD-13_011311_01F EB-PZ-041_011311F PZ-041_011311_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11605-1	RD-13_011311_01F	Nickel Thallium Tin	0.0021U mg/L 0.000061U mg/L 0.00024U mg/L	A	B
280-11605-1	PZ-041_011311_01F	Nickel Thallium Zinc Copper	0.0028U mg/L 0.000020U mg/L 0.0085U mg/L 0.0010U mg/L	A	B
280-11605-1	RD-13_011311_01	Thallium Tin	0.000068U mg/L 0.00037U mg/L	A	B
280-11605-1	EB-PZ-041_011311	Manganese Tin	0.00034U mg/L 0.00038U mg/L	A	B
280-11605-1	PZ-041_011311_01	Thallium Tin	0.000031U mg/L 0.00063U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11605-1	PZ-041_011311_01	Tin	0.00063U mg/L	A	F

LDC #: 24892B4 (1)

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/14/11
Page: 1 of 1
Reviewer: OE
2nd Reviewer: W

SDG #: 280-11605-1
Laboratory: Test America, Inc.

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	FB = FB_011411_19, FB_011411_19F (SDG: 280-11638-1) EB = 2,5

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-13_011311_01	11	PBW	21		31	
2	EB-PZ-041_011311	12		22		32	
3	PZ-041_011311_01	13		23		33	
4	RD-13_011311_01F	14		24		34	
5	EB-PZ-041_011311F	15		25		35	
6	PZ-041_011311_01F	16		26		36	
7	RD-13_011311_01MS F	17		27		37	
8	RD-13_011311_01MSD F	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

SDG #: (MB1440)

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-6		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sn, Sr
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
QC 7,8		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sr
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sn
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,

Comments: Mercury by CVAA if performed

LDC #: 24892B4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 4-6

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	4	6								
Mn		0.000690		0.00345										
Ni		0.000873		0.00437	0.0021	0.0028								
Tl		0.0000229		0.0001	0.000061	0.000020								
Sn		0.000460		0.0023	0.00024									
Zn		0.00211		0.01055		0.0085								

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 5, 6

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	6									
Cu		0.00199		0.00995	0.0010									

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1-3

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1	2	3							
Mn		0.000920		0.0046		0.00034								
Tl		0.0000386		0.0002	0.000068		0.000031							
Sn		0.000233		0.00117	0.00037	0.00038	0.00063							

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24892B4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: CK
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW846 6010B/7000)

(Y) N N/A Were field blanks identified in this SDG?

Y (N) N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: FB=1/14/11; EB=1/13/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 6

Analyte		Blank ID	Sample Identification											
	FB_011411_19F (SDG: 280-11638-1)	5	Action Level	No Qualifiers (>5x)										
Ca	0.059	0.060	0.3											
Na	0.098	0.14	0.7											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24892B4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: FB=1/14/11; EB=1/13/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 3

Analyte	Blank ID	Blank ID	Sample Identification								
	FB_011411_19 (SDG: 280-11638-1)	2	Action Level	3							
Ca	0.048	0.055	0.275								
Mn	0.00030	0.00034	0.0017								
Na	0.097	0.21	1.05								
Ag	0.000097		0.000495								
Sn	0.00082	0.00038	0.0041	0.00063							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: February 23, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1

Sample Identification

RD-55A_011411_01
RD-58A_011411_01
FB_011411_19
RS-33_011411_01
RD-55A_011411_01F
RD-58A_011411_01F
FB_011411_19F
RS-33_011411_01F
RD-55A_011411_01MS
RD-55A_011411_01MSD
RD-55A_011411_01FMS
RD-55A_011411_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese	0.000690 mg/L	RD-55A_011411_01F RD-58A_011411_01F FB_011411_19F RS-33_011411_01F
PB (prep blank)	Manganese	0.386 mg/L	FB_011411_19F
PB (prep blank)	Copper Nickel Thallium Tin Zinc	0.00199 mg/L 0.000873 mg/L 0.0000229 mg/L 0.000460 mg/L 0.00211 mg/L	RD-55A_011411_01F RD-58A_011411_01F FB_011411_19F
PB (prep blank)	Manganese	0.000920 mg/L	RD-55A_011411_01 RD-58A_011411_01 FB_011411_19 RS-33_011411_01
PB (prep blank)	Thallium Tin	0.0000386 mg/L 0.000233 mg/L	RD-55A_011411_01 RD-58A_011411_01 FB_011411_19

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-58A_011411_01F	Manganese Nickel Thallium Tin	0.00068 mg/L 0.0040 mg/L 0.000054 mg/L 0.00023 mg/L	0.00068U mg/L 0.0040U mg/L 0.000054U mg/L 0.00023U mg/L
RD-55A_011411_01F	Nickel Zinc	0.0026 mg/L 0.0030 mg/L	0.0026U mg/L 0.0030U mg/L
RD-55A_011411_01	Manganese Thallium Tin	0.0043 mg/L 0.000026 mg/L 0.00019 mg/L	0.0043U mg/L 0.000026U mg/L 0.00019U mg/L
RD-58A_011411_01	Manganese Thallium Tin	0.00076 mg/L 0.000059 mg/L 0.0010 mg/L	0.00076U mg/L 0.000059U mg/L 0.0010U mg/L
FB_011411_19	Manganese Tin	0.00030 mg/L 0.00082 mg/L	0.00030U mg/L 0.00082U mg/L

Samples FB-011411_19 and FB-011411_19F were identified as field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB-011411_19	1/14/11	Calcium Manganese Sodium Silver Tin	0.048 mg/L 0.00030 mg/L 0.097 mg/L 0.000097 mg/L 0.00082 mg/L	No associated samples in this SDG
FB-011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	No associated samples in this SDG

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11638-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11638-1	RD-55A_011411_01 RD-58A_011411_01 FB_011411_19 RS-33_011411_01 RD-55A_011411_01F RD-58A_011411_01F FB_011411_19F RS-33_011411_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11638-1	RD-58A_011411_01F	Manganese Nickel Thallium Tin	0.00068U mg/L 0.0040U mg/L 0.000054U mg/L 0.00023U mg/L	A	B
280-11638-1	RD-55A_011411_01F	Nickel Zinc	0.0026U mg/L 0.0030U mg/L	A	B
280-11638-1	RD-55A_011411_01	Manganese Thallium Tin	0.0043U mg/L 0.000026U mg/L 0.00019U mg/L	A	B
280-11638-1	RD-58A_011411_01	Manganese Thallium Tin	0.00076U mg/L 0.000059U mg/L 0.0010U mg/L	A	B
280-11638-1	FB_011411_19	Manganese Tin	0.00030U mg/L 0.00082U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 24892C4 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/14/11
SDG #: 280-11638-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: QC
2nd Reviewer: LW

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	FB=3,7

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-55A_011411_01	11	RD-55A_011411_01FMS	21	FBW	31	
2	RD-58A_011411_01	12	RD-55A_011411_01FMSD	22		32	
3	FB_011411_19	13		23		33	
4	RS-33_011411_01	14		24		34	
5	RD-55A_011411_01F	15		25		35	
6	RD-58A_011411_01F	16		26		36	
7	FB_011411_19F	17		27		37	
8	RS-33_011411_01F	18		28		38	
9	RD-55A_011411_01MS	19		29		39	
10	RD-55A_011411_01MSD	20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

SDC #: 45897C4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-3, 5, 6 7		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sr Sn
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sr Sn
4, 8		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sr
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
QC: 9 10 11, 12		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sr Sn
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sr Sn
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sr
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, Sn
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,

Comments: Mercury by CVAA if performed

LDC #: 24892C4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Page: 1 of 1
Reviewer: CR
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 5-8 (6010B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	5 CR	6								
Mn		0.000690		0.00345		0.00068								

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 7 (6020) (Mn analyzed by both 6010B & 6020 for #7)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
Mn		0.386		1.93										

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 5-7

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	5	6								
Cu		0.00199		0.00995										
Ni		0.000873		0.00437	0.0026	0.0040								
Tl		0.0000229		0.0001		0.000054								
Sn		0.000460		0.0023		0.00023								
Zn		0.00211		0.01055	0.0030									

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1-4

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1	2	3							
Mn		0.000920		0.0046	0.0043	0.00076	0.00030							

LDC #: 24892C4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: CR
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L

Associated Samples: 1-3

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1	2	3							
Tl		0.0000386		0.0002	0.000026	0.000059								
Sn		0.000233		0.00117	0.00019	0.0010	0.00082							

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24892C4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CZ
2nd Reviewer: LA

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: None

Analyte	Blank ID	Sample Identification										
	3	Action Level										
Ca	0.048	0.24										
Mn	0.00030	0.002										
Na	0.097	0.485										
Ag	0.000097	0										
Sn	0.00082	0.004										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24892C4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: GR
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: None

Analyte	Blank ID	Sample Identification											
	7	Action Level											
Ca	0.059	0.295											
Na	0.098	0.49											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 12, 2011

LDC Report Date: February 23, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11563-1

Sample Identification

RD-05A_011211_01
RD-05B_011211_01
RD-59A_011211_01
RD-59B_011211_01
RD-59B_011211_36
RD-59C_011211_01
RD-68A_011211_01
RD-68B_011211_01
RD-05A_011211_01DUP
RD-68A_011211_01MS
RD-68A_011211_01MSD
RD-68A_011211_01DUP

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride and Nitrate, EPA Method 314.0 for Perchlorate, and EPA SW 846 Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11563-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-59B_011211_01 and RD-59B_011211_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11563-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11563-1	RD-05A_011211_01 RD-05B_011211_01 RD-59A_011211_01 RD-59B_011211_01 RD-59B_011211_36 RD-59C_011211_01 RD-68A_011211_01 RD-68B_011211_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

LDC #: 24891A6 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/14/11
SDG #: 280-11563-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SR
2nd Reviewer: [illegible]

METHOD: (Analyte) Ammonia-N (EPA Method 350.1), Fluoride, Nitrate-N, (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	OD
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	(4, 5)
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-05A_011211_01	11	RD-68A_011211_01MSD	21	PBW	31	
2	RD-05B_011211_01	12	RD-68A_011211_01DUP	22		32	
3	RD-59A_011211_01	13		23		33	
4	RD-59B_011211_01	14		24		34	
5	RD-59B_011211_36	15		25		35	
6	RD-59C_011211_01	16		26		36	
7	RD-68A_011211_01	17		27		37	
8	RD-68B_011211_01	18		28		38	
9	RD-05A_011211_01DUP	19		29		39	
10	RD-68A_011211_01MS	20		30		40	

Notes:

LDC #: 24891A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,2		(pH) TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO_4)
3-6		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
7,8		pH TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO_4)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC: 9		(pH) TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
10		pH TDS (Cl F (NO_3)) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
11		pH TDS (Cl F (NO_3)) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
↓12		pH TDS Cl (F (NO_3)) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 13, 2011

LDC Report Date: February 23, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11605-1

Sample Identification

RD-05C_011311_01
RD-33B_011311_01
RD-06_011311_01
RD-05C_011311_01MS
RD-05C_011311_01MSD
RD-05C_011311_01DUP

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride and Nitrate, EPA Method 314.0 for Perchlorate, and EPA SW 846 Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11605-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11605-1	RD-05C_011311_01 RD-33B_011311_01 RD-06_011311_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

LDC #: 24891B6 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/14/11
SDG #: 280-11605-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: [illegible]

METHOD: (Analyte) Ammonia-N (EPA Method 350.2), Fluoride, Nitrate-N (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B)
The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification.	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-05C_011311_01	11		21	PBW	31	
2	RD-33B_011311_01	12		22		32	
3	RD-06_011311_01	13		23		33	
4	RD-05C_011311_01MS	14		24		34	
5	RD-05C_011311_01MSD	15		25		35	
6	RD-05C_011311_01DUP	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24892B6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: AR
2nd reviewer: VN

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1, 3		(pH) TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4)
2		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ (ClO4)
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
QC: 4		pH TDS (Cl) F (NO3) NO2 (SO4) PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 (BC)
5		pH TDS (Cl) F (NO3) NO2 (SO4) PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 (BC)
6		pH TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: February 23, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1

Sample Identification

RD-55B_011411_01
RD-55B_011411_01A
RD-55A_011411_01
RD-58A_011411_01
RD-58A_011411_01A
RD-58B_011411_01
RD-58C_011411_01
RD-58C_011411_36
FB_011411_19
RS-33_011411_01
RD-55A_011411_01MS
RD-55A_011411_01MSD
RD-55A_011411_01DUP
FB_011411_19MS
FB_011411_19MSD
FB_011411_19DUP
RS-33_011411_01MS
RS-33_011411_01MSD
RS-33_011411_01DUP

Introduction

This data review covers 19 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, Standard Method 2510B for Conductivity, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphorus, and Sulfate, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
FB_011411_19	Total hexavalent chromium Dissolved hexavalent chromium	24.5 hours 24.5 hours	24 hours 24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
FB_011411_19MS FB_011411_19MSD	Total hexavalent chromium	24.5 hours	24 hours	J (all detects) UJ (all non-detects)	P
FB_011411_19DUP	Dissolved hexavalent chromium	24.5 hours	24 hours	J (all detects) UJ (all non-detects)	P
RS-33_011411_01 RS-33_011411_01DUP	Turbidity	78.25 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

Sample FB_011411_19 was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Sulfate Ammonia as N	0.37 mg/L 0.091 mg/L	No associated samples in this SDG

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11638-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-58C_011411_01 and RD-58C_011411_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD (Limits)
	RD-58C_011411_01	RD-58C_011411_36	
Fluoride	0.26 mg/L	0.26 mg/L	0 (≤35)
Ammonia as N	0.15 mg/L	0.14 mg/L	7 (≤35)
pH	7.90 units	7.85 units	1 (≤35)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11638-1	FB_011411_19	Total hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11638-1	RS-33_011411_01	Turbidity	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11638-1	RD-55B_011411_01 RD-55B_011411_01A RD-55A_011411_01 RD-58A_011411_01 RD-58A_011411_01A RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36 FB_011411_19 RS-33_011411_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 24892C6

SDG #: 280-11638-1

Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/14/11

Page: 1 of 2

Reviewer: CR

2nd Reviewer: W

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.2), Conductivity (SM2510B), Bromide, Chloride, Fluoride, Nitrate-N, Nitrite-N, Orthophosphate, Sulfate (EPA Method 300.0), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(7,8)
X	Field blanks	SW	FB=9

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-55B_011411_01	11	RD-55A_011411_01MS	21	PBW	31	
2	RD-55B_011411_01A	12	RD-55A_011411_01MSD	22		32	
3	RD-55A_011411_01	13	RD-55A_011411_01DUP	23		33	
4	RD-58A_011411_01	14	FB_011411_19MS	24		34	
5	RD-58A_011411_01A	15	FB_011411_19MSD	25		35	
6	RD-58B_011411_01	16	FB_011411_19DUP	26		36	
7	RD-58C_011411_01	17	RS-33_011411_01MS	27		37	
8	RD-58C_011411_36	18	RS-33_011411_01MSD	28		38	
9	FB_011411_19	19	RS-33_011411_01DUP	29		39	
10	RS-33_011411_01	20		30		40	

Notes:

LDC #: 24841C6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: CE
2nd reviewer: ✓

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,4		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} ClO_4
2,5		(**pH**) TDS Cl (**F**) (**NO_3**) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (**ClO_4**)
3,6-8		(**pH**) TDS Cl (**F**) (**NO_3**) NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**)
9		pH TDS (**Cl**) (**F**) (**NO_3**) (**NO_2**) (**SO_4**) PO_4 ALK CN^- (**NH_3**) TKN TOC (**CR^{6+}**) (**ClO_4**) (**Br**) (**Diss. Cr^{6+}**)
~~10~~		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
10		(**pH**) (**TDS**) Cl F (**NO_3**) NO_2 (**SO_4**) PO_4 (**ALK**) CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**) (**Cond**) (**Turb**)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC 11		pH TDS (**Cl**) (**F**) (**NO_3**) (**NO_2**) (**SO_4**) PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**) (**Br**)
12		pH TDS (**Cl**) (**F**) (**NO_3**) (**NO_2**) (**SO_4**) PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**) (**Br**)
13		pH TDS (**Cl**) (**F**) (**NO_3**) (**NO_2**) (**SO_4**) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (**ClO_4**) (**Br**)
14		pH TDS Cl F NO_3 NO_2 SO_4 (**PO_4**) ALK CN^- NH_3 TKN TOC (**CR^{6+}**) ClO_4
15		pH TDS Cl F NO_3 NO_2 SO_4 (**PO_4**) ALK CN^- NH_3 TKN TOC (**CR^{6+}**) ClO_4
16		pH TDS Cl F NO_3 NO_2 SO_4 (**PO_4**) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (**Diss Cr^{6+}**)
17		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (**ClO_4**)
18		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (**ClO_4**)
✓ 19		pH (**TDS**) Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (**ClO_4**) (**Turb**) (**Cond**)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 24898C6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: CR
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	7196A		180.1			
Parameters:	Cr^{6+} (Total or Dissolved)		Turbidity			
Technical holding time:	24hrs		48hrs			

Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
*9,14-16	1/14/11 12:54	1/15/11 13:29	(24.5hrs)				J/UJ/P (H)
10, P1	1/14/11 10:05			1/17/11 16:19	(78.25hrs)		J/UJ/P (H)

*9 = Total & Dissolved Cr^{6+}
14,15 = Total Cr^{6+}
16 = Dissolved Cr^{6+}

LDC #: 24892C6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer: L

METHOD: Inorganics, EPA Method See Cover

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: None

Analyte	Blank ID	Action Limit	Sample Identification							
[redacted]	9		No Qualifiers							
Sulfate	0.37	1.85								
Ammonia as N	0.091	0.455								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC# 24892C6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: CC
2nd Reviewer: [illegible]

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	7	8		
Fluoride	0.26	0.26	0	
Ammonia as N	0.15	0.14	7	
pH (no units)	7.90	7.85	1	

V:\FIELD DUPLICATES\FD_inorganic\24892C6.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 13, 2011

LDC Report Date: February 23, 2011

Matrix: Water

Parameters: Gasoline Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11605-1

Sample Identification

RD-73_011311_01
TB_RD-73_011311

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Gasoline Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No gasoline range organic contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-49569	1/18/11	Gasoline Range Organics (C6-C12)	7.90 ug/L	All samples in SDG 280-11605-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
TB_RD-73_011311	Gasoline Range Organics (C6-C12)	7.2 ug/L	100U ug/L

Sample TB_RD-73_011311 was identified as a trip blank. No gasoline range organic contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-73_011311	1/13/11	Gasoline Range Organics (C6-C12)	7.2 ug/L	RD-73_011311_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11605-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11605-1	RD-73_011311_01 TB_RD-73_011311	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11605-1	TB_RD-73_011311	Gasoline Range Organics (C6-C12)	100U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

LDC #: 24891B7 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11605-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SW
2nd Reviewer: [illegible]

METHOD: GC Gasoline Range Organics (EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW	TB = 2

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-73_011311_01	11	MB 280-49569/6	21		31	
2	TB_RD-73_011311	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 24891 B7

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: MC
2nd Reviewer: MA

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: NA **Blank analysis date:** 1/12/11 **Associated samples:** All Code: B

Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	MB 280-49569	1 (10x)	2					
C6 - C12	7.90	2200	7.2 /100 U					

Blank extraction date: _____ **Blank analysis date:** _____ **Associated samples:** _____

Conc. units: _____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24891B7
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JW
2nd Reviewer: M

METHOD: / GC __ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 1/12/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 1

Compound	Blank ID	Blank ID	Sample Identification							
	2		1							
$C_6 - C_{12}$	7.2		2200							
CRQL										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 12, 2011

LDC Report Date: February 23, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11563-1

Sample Identification

RD-05A_011211_01
RD-05B_011211_01
RD-68A_011211_01
RD-68B_011211_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-05B_011211_01	ortho-Terphenyl	129 (50-115)	All TCL compounds	J (all detects)	P

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11563-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-11563-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11563-1	RD-05B_011211_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-11563-1	RD-05A_011211_01 RD-05B_011211_01 RD-68A_011211_01 RD-68B_011211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

LDC #: 24891A8
SDG #: 280-11563-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 2/15/14
Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/14
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	SW	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-05A_011211_01	11	MB 280-48939/1-A	21		31	
2	RD-05B_011211_01	12		22		32	
3	RD-68A_011211_01	13		23		33	
4	RD-68B_011211_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 24891 A8

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: / GC ___ HPLC
Are surrogates required by the method? Yes / or No____.
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Were surrogates spiked into all samples and blanks?
Y (N) N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	2	NS	H	129 (50-115)	J dets / P (S)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	1-Chlorooctadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-DCPAA
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 13, 2011
LDC Report Date:	February 23, 2011
Matrix:	Water
Parameters:	Diesel Range Organics
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11605-1

Sample Identification

RD-05C_011311_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11605-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11605-1	RD-05C_011311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

LDC #: 24891B8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11605-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JV
2nd Reviewer:

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-05C_011311_01	11	MB 280-49123/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 14, 2011
LDC Report Date:	February 17, 2011
Matrix:	Water
Parameters:	Diesel Range Organics
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11638-1

Sample Identification

FB_011411_19

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample FB_011411_19 was identified as a field blank. No diesel range organic contaminants were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1	FB_011411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 24891C8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11638-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MG
2nd Reviewer: [illegible]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	MD	FB = 1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	FB_011411_19	11	MB 280-49493/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 14, 2011
LDC Report Date:	February 23, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11646-1/H1A180416

Sample Identification

FB_011411_19

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1020226 MB	1/20/11	1,2,3,7,8-PeCDD	0.65 pg/L	All samples in SDG 280-11646-1/H1A180416
		1,2,3,4,7,8-HxCDD	0.66 pg/L	
		1,2,3,6,7,8-HxCDD	0.82 pg/L	
		1,2,3,7,8,9-HxCDD	0.83 pg/L	
		1,2,3,4,6,7,8-HpCDD	0.76 pg/L	
		OCDD	3.9 pg/L	
		1,2,3,7,8-PeCDF	0.96 pg/L	
		2,3,4,7,8-PeCDF	0.60 pg/L	
		1,2,3,4,7,8-HxCDF	0.89 pg/L	
		1,2,3,6,7,8-HxCDF	0.91 pg/L	
		2,3,4,6,7,8-HxCDF	0.84 pg/L	
		1,2,3,7,8,9-HxCDF	0.83 pg/L	
		1,2,3,4,6,7,8-HpCDF	1.0 pg/L	
		1,2,3,4,7,8,9-HpCDF	0.94 pg/L	
		OCDF	2.8 pg/L	

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
FB_011411_19	1,2,3,7,8-PeCDD	0.70 pg/L	0.70U pg/L
	1,2,3,4,7,8-HxCDD	0.42 pg/L	0.42U pg/L
	1,2,3,7,8,9-HxCDD	0.48 pg/L	0.48U pg/L
	1,2,3,4,6,7,8-HpCDD	1.3 pg/L	1.3U pg/L
	OCDD	2.2 pg/L	2.2U pg/L
	1,2,3,7,8-PeCDF	0.48 pg/L	0.48U pg/L
	2,3,4,7,8-PeCDF	0.40 pg/L	0.40U pg/L
	1,2,3,6,7,8-HxCDF	0.50 pg/L	0.50U pg/L
	2,3,4,6,7,8-HxCDF	0.52 pg/L	0.52U pg/L
	1,2,3,7,8,9-HxCDF	0.78 pg/L	0.78U pg/L
	1,2,3,4,6,7,8-HpCDF	0.78 pg/L	0.78U pg/L
	1,2,3,4,7,8,9-HpCDF	0.74 pg/L	0.74U pg/L
	OCDF	2.0 pg/L	2.0U pg/L

Sample FB_011411_19 was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD	0.70 pg/L	No associated samples in this SDG
		1,2,3,4,7,8-HxCDD	0.42 pg/L	
		1,2,3,7,8,9-HxCDD	0.48 pg/L	
		1,2,3,4,6,7,8-HpCDD	1.3 pg/L	
		OCDD	2.2 pg/L	
		1,2,3,7,8-PeCDF	0.48 pg/L	
		2,3,4,7,8-PeCDF	0.40 pg/L	
		1,2,3,6,7,8-HxCDF	0.50 pg/L	
		2,3,4,6,7,8-HxCDF	0.52 pg/L	
		1,2,3,7,8,9-HxCDF	0.78 pg/L	
		1,2,3,4,6,7,8-HpCDF	0.78 pg/L	
		1,2,3,4,7,8,9-HpCDF	0.74 pg/L	
		OCDF	2.0 pg/L	

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11646-1/H1A180416	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-11646-1/H1A180416

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11646-1/ H1A180416	FB_011411_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-11646-1/H1A180416

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11646-1/ H1A180416	FB_011411_19	1,2,3,7,8-PeCDD	0.70U pg/L	A	B
		1,2,3,4,7,8-HxCDD	0.42U pg/L		
		1,2,3,7,8,9-HxCDD	0.48U pg/L		
		1,2,3,4,6,7,8-HpCDD	1.3U pg/L		
		OCDD	2.2U pg/L		
		1,2,3,7,8-PeCDF	0.48U pg/L		
		2,3,4,7,8-PeCDF	0.40U pg/L		
		1,2,3,6,7,8-HxCDF	0.50U pg/L		
		2,3,4,6,7,8-HxCDF	0.52U pg/L		
		1,2,3,7,8,9-HxCDF	0.78U pg/L		
		1,2,3,4,6,7,8-HpCDF	0.78U pg/L		
		1,2,3,4,7,8,9-HpCDF	0.74U pg/L		
		OCDF	2.0U pg/L		

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-11646-1/H1A180416

No Sample Data Qualified in this SDG

LDC #: 24891D21 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/23/11

SDG #: 280-11646-1/H1A180416 Level V Page: 1 of 1

Laboratory: Test America Inc. Reviewer: JVL

2nd Reviewer: C

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	FB = 1

Note: A = Acceptable N = Not provided/applicable SW = See worksheet ND = No compounds detected R = Rinsate FB = Field blank D = Duplicate TB = Trip blank EB = Equipment blank

Validated Samples: Water

1	FB_011411_19	11	102026MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 24891 D21

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?
Y N N/A Was the method blank contaminated?

Blank extraction date: 1/20/11 **Blank analysis date:** 1/28/11 **Associated samples:** 1 Code : B
Conc. units: pg/L

Compound	Blank ID	Sample Identification								
	10 20226 MB	1								
B	0.65	0.70 /U								
C	0.66	0.42 /U								
D	0.87									
E	0.83	0.48 /U								
F	0.76	1.3 /U								
G	3.9	2.2 /U								
I	0.96	0.48 /U								

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
J	0.60	0.90 /U								
K	0.89									
L	0.91	0.50 /U								
M	0.84	0.52 /U								
N	0.83	0.78 /U								
O	1.0	0.78 /U								
P	0.94	0.74 /U								
G	2.8	2.0 /U								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24891D21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: 1a

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** NA
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: None

Compound	Blank ID	Sample Identification								
	1									
B	0.70									
C	0.47									
E	0.48									
F	1.3									
G	2.2									
I	0.48									
CRQL J	0.40									

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
L	0.50									
M	0.52									
N	0.78									
O	0.78									
P	0.74									
Q	2.0									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 19, 2011

LDC Report Date: February 23, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11765-1/H1A210464

Sample Identification

PZ-159_011911_01
EB_PZ-159_011911

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Sample EB_PZ-159_011911 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11646-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD	0.70 pg/L	PZ-159_011911_01
		1,2,3,4,7,8-HxCDD	0.42 pg/L	
		1,2,3,7,8,9-HxCDD	0.48 pg/L	
		1,2,3,4,6,7,8-HpCDD	1.3 pg/L	
		OCDD	2.2 pg/L	
		1,2,3,7,8-PeCDF	0.48 pg/L	
		2,3,4,7,8-PeCDF	0.40 pg/L	
		1,2,3,6,7,8-HxCDF	0.50 pg/L	
		2,3,4,6,7,8-HxCDF	0.52 pg/L	
		1,2,3,7,8,9-HxCDF	0.78 pg/L	
		1,2,3,4,6,7,8-HpCDF	0.78 pg/L	
		1,2,3,4,7,8,9-HpCDF	0.74 pg/L	
		OCDF	2.0 pg/L	

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-159_011911_01	OCDD	6.3 pg/L	6.3U pg/L

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 1024133 (All samples in SDG 280-11765-1/ H1A210464)	OCDF	-	62 (63-145)	65 (≤15)	J (all detects) UJ (all non-detects)	P

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11765-1/H1A210464	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-11765-1/H1A210464

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11765-1/ H1A210464	PZ-159_011911_01 EB_PZ-159_011911	OCDF	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R)(RPD) (L,E)
280-11765-1/ H1A210464	PZ-159_011911_01 EB_PZ-159_011911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-11765-1/H1A210464

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-11765-1/H1A210464

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11765-1/ H1A210464	PZ-159_011911_01	OCDD	6.3U pg/L	A	F

LDC #: 24891E21 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/23/11

SDG #: 280-11765-1/H1A210464 Level V Page: 1 of 1

Laboratory: Test America Inc. Reviewer: MG

2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	SW	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SWB	EB = 2 FB = FB_011411_19 from 280-11646-1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1 +	PZ-159_011911_01	11 −	10 24133 MB	21		31	
2 −	EB_PZ-159_011911	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 24891 E21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JM
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** pg/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 1 Code: F

Compound	Blank ID	Sample Identification								
(from 280-11646-1)	FB_011411_19	1								
B	0.70									
C	0.47									
E	0.48									
F	1.3									
G	2.2		6.3/U							
I	0.48									
CRQL J	0.40									

(11)

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
L	0.50									
M	0.57									
N	0.78									
O	0.78									
P	0.74									
Q	2.0									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 7891 E2

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JV
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?
(Y) N N/A Was a LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
Y (N) N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	Date	Lab ID/Reference	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS/D 102433	Q	( )	62 (63-145)	65 (15)	All	J / UJ / P (L, E)
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 12, 2011

LDC Report Date: February 16, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11563-1/A1A130462

Sample Identification

RD-05A_011211_01
RD-05B_011211_01
RD-68A_011211_01
RD-68B_011211_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1014084-MB	1/14/11	Formaldehyde	18 ug/L	All samples in SDG 280-11563-1/A1A130462

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-05A_011211_01	Formaldehyde	17 ug/L	50U ug/L
RD-05B_011211_01	Formaldehyde	27 ug/L	50U ug/L
RD-68A_011211_01	Formaldehyde	29 ug/L	50U ug/L
RD-68B_011211_01	Formaldehyde	29 ug/L	50U ug/L

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11563-1/A1A130462	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11563-1/A1A130462

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11563-1/A1A130462	RD-05A_011211_01 RD-05B_011211_01 RD-68A_011211_01 RD-68B_011211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11563-1/A1A130462

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11563-1/A1A130462	RD-05A_011211_01	Formaldehyde	50U ug/L	A	B
280-11563-1/A1A130462	RD-05B_011211_01	Formaldehyde	50U ug/L	A	B
280-11563-1/A1A130462	RD-68A_011211_01	Formaldehyde	50U ug/L	A	B
280-11563-1/A1A130462	RD-68B_011211_01	Formaldehyde	50U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11563-1/A1A130462

No Sample Data Qualified in this SDG

LDC #: 24891A71 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11

SDG #: 280-11563-1/A1A130462 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: DVG

2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-05A_011211_01	11	10 14084-MB	21		31	
2	RD-05B_011211_01	12		22		32	
3	RD-68A_011211_01	13		23		33	
4	RD-68B_011211_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24891A71

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: VG
2nd Reviewer: [illegible]

METHOD: / GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 1/14/11 **Blank analysis date:** 1/14/11 **Associated samples:** All Code: B

Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	1614084-MB	1	2	3	4			
Formaldehyde	18	17 /50 U	27 /50 U	29 /50 U	29 /50 U			

5X
90

Blank extraction date: _____ **Blank analysis date:** _____ **Associated samples:** _____

Conc. units: _____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 13, 2011
LDC Report Date:	February 16, 2011
Matrix:	Water
Parameters:	Formaldehyde
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11605-1/A1A114021

Sample Identification

RD-05C_011311_01
RD-06_011311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1014084-MB	1/14/11	Formaldehyde	18 ug/L	All samples in SDG 280-11605-1/A1A114021

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-05C_011311_01	Formaldehyde	21 ug/L	50U ug/L
RD-06_011311_01	Formaldehyde	21 ug/L	50U ug/L

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11605-1/A1A114021	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11605-1/A1A114021

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11605-1/A1A114021	RD-05C_011311_01 RD-06_011311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11605-1/A1A114021

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11605-1/A1A114021	RD-05C_011311_01	Formaldehyde	50U ug/L	A	B
280-11605-1/A1A114021	RD-06_011311_01	Formaldehyde	50U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11605-1/A1A114021

No Sample Data Qualified in this SDG

LDC #: 24891B71 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11605-1/A1A140421 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: W

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

F 1	RD-05C_011311_01	+ 11	1014084-MB	21		31	
F 2	RD-06_011311_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24891 B77

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JR
2nd Reviewer: [signature]

METHOD: ___ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 1/14/11 **Blank analysis date:** 1/14/11 **Associated samples:** All Code: B

Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	lo 14084-MB	1	2					
Formaldehyde	18	21/50U	21/50U					

Blank extraction date:_____ **Blank analysis date:**_____ **Associated samples:**_____

Conc. units:_____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1/A170407

Sample Identification

RD-55B_011411_01
RD-55A_011411_01
RD-58B_011411_01
RD-58C_011411_01
RD-58C_011411_36
FB_011411_19
RS-33_011411_01
RD-55A_011411_01MS
RD-55A_011411_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1017148-MB	1/17/11	Formaldehyde	22 ug/L	All samples in SDG 280-11638-1/A170407

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-55B_011411_01	Formaldehyde	20 ug/L	50U ug/L
RD-55A_011411_01	Formaldehyde	23 ug/L	50U ug/L
RD-58B_011411_01	Formaldehyde	28 ug/L	50U ug/L
RD-58C_011411_01	Formaldehyde	22 ug/L	50U ug/L
RD-58C_011411_36	Formaldehyde	26 ug/L	50U ug/L
FB_011411_19	Formaldehyde	21 ug/L	50U ug/L

Sample	Compound	Reported Concentration	Modified Final Concentration
RS-33_011411_01	Formaldehyde	21 ug/L	50U ug/L

Sample FB_011411_19 was identified as a field blank. No formaldehyde was found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Formaldehyde	21 ug/L	No associated samples in this SDG

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1/A170407	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples RD-58C_011411_01 and RD-58C_011411_36 were identified as field duplicates. No polychlorinated biphenyl was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	RD-58C_011411_01	RD-58C_011411_36	
Formaldehyde	22	25	13 (≤35)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11638-1/A170407

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1/A170407	RD-55B_011411_01 RD-55A_011411_01 RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36 FB_011411_19 RS-33_011411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11638-1/A170407

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11638-1/A170407	RD-55B_011411_01	Formaldehyde	50U ug/L	A	B
280-11638-1/A170407	RD-55A_011411_01	Formaldehyde	50U ug/L	A	B
280-11638-1/A170407	RD-58B_011411_01	Formaldehyde	50U ug/L	A	B
280-11638-1/A170407	RD-58C_011411_01	Formaldehyde	50U ug/L	A	B
280-11638-1/A170407	RD-58C_011411_36	Formaldehyde	50U ug/L	A	B
280-11638-1/A170407	FB_011411_19	Formaldehyde	50U ug/L	A	B
280-11638-1/A170407	RS-33_011411_01	Formaldehyde	50U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11638-1/A170407

No Sample Data Qualified in this SDG

LDC #: 24891C71 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11638-1/A1A170407 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D = 4, 5
X.	Field blanks	SW	FB = 6

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-55B_011411_01	11	1017148-MB	21		31	
2	RD-55A_011411_01	12		22		32	
3	RD-58B_011411_01	13		23		33	
4	RD-58C_011411_01 D	14		24		34	
5	RD-58C_011411_36 D	15		25		35	
6	FB_011411_19	16		26		36	
7	RS-33_011411_01	17		27		37	
8	RD-55A_011411_01MS	18		28		38	
9	RD-55A_011411_01MSD	19		29		39	
10		20		30		40	

Notes: _____

LDC #: 24891C71

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JV6
2nd Reviewer: [signature]

METHOD: ___ GC ___/ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 1/17/11 **Blank analysis date:** 1/17/11 **Associated samples:** All code: B
Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	101748-MB	1	2	3	4	5	6	7
Formaldehyde	22	20/50 U	23/50 U	28/50 U	22/50 U	26/50 U	21/50 U	21/50 U

Blank extraction date: ____ **Blank analysis date:** ____ **Associated samples:** ____
Conc. units: ____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24891 C71

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: __ GC / HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: NA
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: None

Compound	Blank ID	Blank ID	Sample Identification							
	6									
Formaldehyde	21									
CRQL										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#:24891C71

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	4	5		
Formaldehyde	22	25	13	

V:\FIELD DUPLICATES\24891C71.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 12, 2011

LDC Report Date: February 16, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11563-1

Sample Identification

RD-05A_011211_01
RD-05B_011211_01
RD-68A_011211_01
RD-68B_011211_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11563-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11563-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11563-1	RD-05A_011211_01 RD-05B_011211_01 RD-68A_011211_01 RD-68B_011211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11563-1

No Sample Data Qualified in this SDG

LDC #: 24891A76 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11563-1 Level V Page: 1 of 1
Laboratory: Test America Reviewer: JV6
2nd Reviewer: ✓

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	~~SW~~ A	Sampling dates: 1/12/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	RD-05A_011211_01	11	MB 280-49549/25	21		31	
2	RD-05B_011211_01	12		22		32	
3	RD-68A_011211_01	13		23		33	
4	RD-68B_011211_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: (UDMH)

LDC #: 29891A76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MC
2nd reviewer: L

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
All	W	Hydrazine	(1,1-Dimethylhydrazine)	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 13, 2011

LDC Report Date: February 16, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11605-1

Sample Identification

RD-05C_011311_01
RD-06_011311_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11605-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11605-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11605-1	RD-05C_011311_01 RD-06_011311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11605-1

No Sample Data Qualified in this SDG

LDC #: 24891B76 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/15/11
SDG #: 280-11605-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JYC
2nd Reviewer: ✓

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW/A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-05C_011311_01	11	MB 280-49549/5	21		31	
2	RD-06_011311_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24891 B76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [signature]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
2	↓	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11638-1

Sample Identification

RD-55B_011411_01
RD-55A_011411_01
RD-58A_011411_01
RD-58B_011411_01
RD-58C_011411_01
RD-58C_011411_36
FB_011411_19
RS-33_011411_01
RD-55A_011411_01MS
RD-55A_011411_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-49649/34	1/15/11	Hydrazine		RD-58A_011411_01 RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36 FB_011411_19 RS-33_011411_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample FB_011411_19 was identified as a field blank. No hydrazines were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11638-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples RD-58C_011411_01 and RD-58C_011411_36 were identified as field duplicates. No hydrazines were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11638-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11638-1	RD-55B_011411_01 RD-55A_011411_01 RD-58A_011411_01 RD-58B_011411_01 RD-58C_011411_01 RD-58C_011411_36 FB_011411_19 RS-33_011411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11638-1

No Sample Data Qualified in this SDG

LDC #: 24891C76 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11638-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: ✓

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/14 11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS / D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 5, 6
X.	Field blanks	ND	FB = 7

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-55B_011411_01	11	MB 280-49549/2	21		31	
2	RD-55A_011411_01	12	MB 280-49649/3	22		32	
3	RD-58A_011411_01	13		23		33	
4	RD-58B_011411_01	14		24		34	
5	RD-58C_011411_01 D	15		25		35	
6	RD-58C_011411_36 D	16		26		36	
7	FB_011411_19	17		27		37	
8	RS-33_011411_01	18		28		38	
9	RD-55A_011411_01MS	19		29		39	
10	RD-55A_011411_01MSD	20		30		40	

Notes:

LDC #: 25891C76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CVG
2nd reviewer: [signature]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
All	W	(Hydrazine)	(1,1-Dimethylhydrazine)	(Monomethyl Hydrazine)
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments:

LDC #: 24891C76

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: VV
2nd Reviewer: V

METHOD: ___ GC _/_ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 1/15/11 **Blank analysis date:** 1/19/11 **Associated samples:** 3 - 8 (ND)

Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	MB 286-49669/34							
Hydrazine								

Blank extraction date: _____ **Blank analysis date:** _____ **Associated samples:** _____

Conc. units: _____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 10, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24910:

SDG #	Fraction
280-11669-1/ A1A180453 280-11696-2	Volatiles, 1,4-Dioxane, Semivolatiles, N-Nitrosodimethylamine, Metals, Wet Chemistry, Gasoline Range Organics, Diesel Range Organics, Formaldehyde, Hydrazine, Perchlorate

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV

LDC #24910 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr, 2011)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		SVOA (8270C)		NDMA (1625)		Metals (SW846)		Diss. Metals (SW846)		GRO (8015B)		DRO (OK-DEQ)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		CLO_4 (6860)		1,4-Dioxane (8260B)									
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11669-1/ A1A180453	02/10/11	03/04/11	13	0	9	0	9	0	1	0	1	0	4	0	6	0	9	0	9	0	7	0	7	0	-	-	12	0								
B	280-11696-2	02/10/11	03/04/11	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0								
Total	T/PG			13	0	9	0	13	0	1	0	1	0	4	0	6	0	9	0	9	0	7	0	7	0	1	0	12	0	0	0	0	0	0	0	0	92

Client Select IV

LDC #24910 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr, 2011)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.2)		Cl SO_4 (300.0)		F NO_3-N (300.0)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)																	
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11669-1	02/10/11	03/04/11	1	0	9	0	1	0	9	0	1	0	9	0	9	0	1	0	1	0																
Total	A/PG			1	0	9	0	1	0	9	0	1	0	9	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-1

Sample Identification

RD-36B_011711_01
RD-36C_011711_01
TB_RD-36C_011711
RD-36D_011711_01
ES-27_011711_01
HAR-33_011711_01
TB_HAR-33 011711
RS-15_011711_01
HAR-25_011711_01
HAR-08_011711_01
TB_HAR-08_011711
HAR-29_011711_01
HAR-32_011711_01
RD-36C_011711_01MS
RD-36C_011711_01MSD

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-49836/6	1/19/11	Acetone Methylene chloride	2.44 ug/L 0.402 ug/L	All samples in SDG 280-11669-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_RD-36C_011711	Methylene chloride	0.69 ug/L	5.0U ug/L
HAR-33_011711_01	Acetone	2.2 ug/L	10U ug/L
TB_HAR-33 011711	Acetone Methylene chloride	2.1 ug/L 0.66 ug/L	10U ug/L 5.0U ug/L
TB_HAR-08_011711	Methylene chloride	0.66 ug/L	5U ug/L
HAR-29_011711_01	Acetone	3.1 ug/L	10 ug/L

Samples TB_RD-36C_011711, TB_HAR-33 011711 and TB_HAR-08_011711 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-36C_011711	1/17/11	Methylene chloride	0.69 ug/L	RD-36B_011711_01 RD-36C_011711_01 RD-36D_011711_01
TB_HAR-33 011711	1/17/11	Acetone Methylene chloride	2.1 ug/L 0.66 ug/L	ES-27_011711_01 HAR-33_011711_01 RS-15_011711_01 HAR-25_011711_01
TB_HAR-08_011711	1/17/11	Methylene chloride	0.66 ug/L	HAR-08_011711_01 HAR-29_011711_01 HAR-32_011711_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
HAR-33_011711_01	Acetone	2.2 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
ES-27_011711_01 (10x)	Toluene-d8	111 (88-110)	1,1,2-Trichloro-1,2,2-trifluoroethane	J (all detects)	A
HAR-08_011711_01	Toluene-d8	115 (88-110)	All TCL compounds	J (all detects)	P
HAR-29_011711_01	Toluene-d8	115 (88-110)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-1	ES-27_011711_01 (10x)	1,1,2-Trichloro-1,2,2-trifluoroethane	J (all detects)	A	Surrogate spikes (%R) (S)
280-11669-1	HAR-08_011711_01 HAR-29_011711_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-11669-1	RD-36B_011711_01 RD-36C_011711_01 TB_RD-36C_011711 RD-36D_011711_01 ES-27_011711_01 HAR-33_011711_01 TB_HAR-33 011711 RS-15_011711_01 HAR-25_011711_01 HAR-08_011711_01 TB_HAR-08_011711 HAR-29_011711_01 HAR-32_011711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11669-1	TB_RD-36C_011711	Methylene chloride	5.0U ug/L	A	B
280-11669-1	HAR-33_011711_01	Acetone	10U ug/L	A	B
280-11669-1	TB_HAR-33 011711	Acetone Methylene chloride	10U ug/L 5.0U ug/L	A	B
280-11669-1	TB_HAR-08_011711	Methylene chloride	5U ug/L	A	B
280-11669-1	HAR-29_011711_01	Acetone	10 ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11669-1	HAR-33_011711_01	Acetone	10U ug/L	A	T

LDC #: 24910A1a
SDG #: 280-11669-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 2/16/11
Page: 1 of 1
Reviewer: JW
2nd Reviewer: [signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 3, 7, 11

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1, 6.7x	1 RD-36B_011711_01	11 TB_HAR-08_011711	21	MB 280-49836/6	31		
	2 RD-36C_011711_01	12 HAR-29_011711_01	22		32		
	3 TB_RD-36C_011711	13 HAR-32_011711_01	23 (4x, 10x)		33		
	4 RD-36D_011711_01	14 RD-36C_011711_01MS	24		34		
10x	5 ES-27_011711_01	15 RD-36C_011711_01MSD	25		35		
	6 HAR-33_011711_01	16	26		36		
	7 TB_HAR-33 011711	17	27		37		
2.7x	8 RS-15_011711_01	18	28		38		
	9 HAR-25_011711_01	19	29		39		
	10 HAR-08_011711_01	20	30		40		

VOCs + IPA = 1-7, 9, 11, 13
VOCs = 8, 10, 12

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24910 A1a

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: DVG
2nd Reviewer: L

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 1/14/11
Conc. units: ug/L
Associated Samples: All Cod : B

Compound	Blank ID	Sample Identification								
	MB 280-49836/6	3	5	6	7	11	12	13 (4x)		
Methylene chloride F	2.44		(32)	2.2/10U	2.1/10U		3.1/10U	(10D)		
Acetone E	0.40J	0.69/5.0U			0.66/5.0U	0.66/5.0U				
CRQL										

Blank analysis date:
Conc. units:
Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 29910 A1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MC
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y/N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 1, 2, 4 (ND)

Compound	Blank ID 3	Blank ID	Sample Identification								
Sampling Date	1/17/11										
Methylene chloride (E)	0.69										
Acetone											
Chloroform											
CRQL											

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 5, 6, 8, 9 Code: T

Compound	Blank ID 7	Blank ID	Sample Identification								
Sampling Date	1/17/11		5	6							
~~Methylene chloride~~ F	2.1		(32)	2.2/10U							
~~Acetone~~ E	0.66										
Chloroform											
CRQL											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 29910A16

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: NG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 10, 12, 13 (ND)

Compound	Blank ID 11	Blank ID	Sample Identification								
Sampling Date	1/17/11										
Methylene chloride (E)	0.66										
Acetone											
Chloroform											
CRQL											

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples:

Compound	Blank ID	Blank ID	Sample Identification								
Sampling Date											
Methylene chloride											
Acetone											
Chloroform											
CRQL											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 29910 A1a

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: JW
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		5 (10x)	TOL	111 (88-110)	J dets/A (TTT only) (S)
		10		115 ( )	J dets/P
		12		115 ( )	

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC #: 29910A1a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: VG
2nd Reviewer: L

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	14/15	QQQ	67 (75-120)	45 (75-120)	( )	2	No qual (Parent conc >4x spike amt)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-1

Sample Identification

RD-36B_011711_01
RD-36C_011711_01
TB_RD-36C_011711
RD-36D_011711_01
ES-27_011711_01
HAR-33_011711_01
TB_HAR-33 011711
HAR-25_011711_01
HAR-08_011711_01
TB_HAR-08_011711
HAR-29_011711_01
HAR-32_011711_01
RD-36C_011711_01MS
RD-36C_011711_01MSD

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

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The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

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UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_RD-36C_011711, TB_HAR-33 011711 and TB_HAR-08_011711 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-1	RD-36B_011711_01 RD-36C_011711_01 TB_RD-36C_011711 RD-36D_011711_01 ES-27_011711_01 HAR-33_011711_01 TB_HAR-33 011711 HAR-25_011711_01 HAR-08_011711_01 TB_HAR-08_011711 HAR-29_011711_01 HAR-32_011711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

LDC #: 24910A1b

VALIDATION COMPLETENESS WORKSHEET

Level V

SDG #: 280-11669-1

Laboratory: Test America, Inc.

Date: 2/16/11

Page: 1 of 1

Reviewer: SVG

2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3, 7, 11

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	RD-36B_011711_01	11	TB_HAR-08_011711	21	MB 280-49844/1	31	
2	RD-36C_011711_01	12	HAR-29_011711_01	22	MB 280-50235/5	32	
3	TB_RD-36C_011711	13	HAR-32_011711_01	23		33	
4	RD-36D_011711_01	14	RD-36C_011711_01MS	24		34	
5	ES-27_011711_01	15	RD-36C_011711_01MSD	25		35	
6	HAR-33_011711_01	16		26		36	
7	TB_HAR-33 011711	17		27		37	
8	~~RS-15-011711-01~~	18		28		38	
9	HAR-25_011711_01	19		29		39	
10	HAR-08_011711_01	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 17, 2011
LDC Report Date:	February 17, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11669-1

Sample Identification

RD-36B_011711_01
RD-36C_011711_01
RD-36D_011711_01
ES-27_011711_01
HAR-33_011711_01
HAR-25_011711_01
HAR-08_011711_01
HAR-29_011711_01
HAR-32_011711_01
RD-36C_011711_01MS
RD-36C_011711_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-1	RD-36B_011711_01 RD-36C_011711_01 RD-36D_011711_01 ES-27_011711_01 HAR-33_011711_01 HAR-25_011711_01 HAR-08_011711_01 HAR-29_011711_01 HAR-32_011711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

LDC #: 24910A2a **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11669-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VV
2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-36B_011711_01	11	RD-36C_011711_01MSD	21	MB 280-49497/1	31	
2	RD-36C_011711_01	12		22		32	
3	RD-36D_011711_01	13		23		33	
4	ES-27_011711_01	14		24		34	
5	HAR-33_011711_01	15		25		35	
6	HAR-25_011711_01	16		26		36	
7	HAR-08_011711_01	17		27		37	
8	HAR-29_011711_01	18		28		38	
9	HAR-32_011711_01	19		29		39	
10	RD-36C_011711_01MS	20		30		40	

Phthalates + NB = 1 - 3, 6
NB = 4, 5, 7 - 9

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-1

Sample Identification

RD-36B_011711_01
RD-36C_011711_01
RD-36D_011711_01
ES-27_011711_01
HAR-33_011711_01
HAR-25_011711_01
HAR-29_011711_01
HAR-32_011711_01
RD-36C_011711_01MS
RD-36C_011711_01MSD
HAR-08_011711_01

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples FB_ES-27_011711_19, FB_HAR-08_011711_19, and FB_HAR-32_011711_19 (all from SDG 280-11669-2) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

The laboratory indicated the samples were extracted for 8 hours. The method requires the samples be extracted for a minimum of eighteen hours.

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples ES-27_011711_36 (from SDG 280-11669-2) and ES-27_011711_01, samples HAR-08_011711_36 (from SDG 280-11669-2) and HAR-08_011711_01, and samples HAR-32_011711_36 (from SDG 280-11669-2) and HAR-32_011711_01 were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	ES-27_011711_01	ES-27_011711_36	
N-Nitrosodimethylamine	0.0059	0.0058	2 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-08_011711_01	HAR-08_011711_36	
N-Nitrosodimethylamine	0.016	0.016	0 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-32_011711_01	HAR-32_011711_36	
N-Nitrosodimethylamine	0.18	0.18	0 (≤35)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-1	RD-36B_011711_01 RD-36C_011711_01 RD-36D_011711_01 ES-27_011711_01 HAR-33_011711_01 HAR-25_011711_01 HAR-29_011711_01 HAR-32_011711_01 HAR-08_011711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

LDC #: 24910A2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11669-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: JW
2nd Reviewer: [illegible]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1/1
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_1 = 4 + ES-27_011711_36 D_2 = 11 + HAR-08_011711_36 > all from 280-11669-2 D_3 = 8 + HAR-32_011711_36
XVII.	Field blanks	ND	FB = FB_ES-27_011711_19, FB_HAR-08_01711_19, FB_HAR-32_011711_19 (all from 280-11669-2)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

		+		−		
1	RD-36B_011711_01	11	HAR-08_011711_01 D_2	21	MB 280-9687/1-A	31
2	RD-36C_011711_01	12		22		32
3	RD-36D_011711_01	13		23		33
4	ES-27_011711_01 D_1	14		24		34
5	HAR-33_011711_01	15		25		35
6	HAR-25_011711_01	16		26		36
7	HAR-29_011711_01	17		27		37
8	HAR-32_011711_01 D_3	18		28		38
9	RD-36C_011711_01MS	19		29		39
10	RD-36C_011711_01MSD	20		30		40

(Note: Samples were extracted for 8 hours rather than 18 hours.)

LDC#:24910A2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVC
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	4	ES-27_011711_36		
NDMA	0.0059	0.0058	2	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	11	HAR-08_011711_36		
NDMA	0.016	0.016	0	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	8	HAR-32_011711_36		
NDMA	0.18	0.18	0	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 15, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 290-11669-1

Sample Identification

HAR-29_011711_01
HAR-29_011711_01F
HAR-29_011711_01MS
HAR-29_011711_01MSD
HAR-29_011711_01FMS
HAR-29_011711_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B for Metals. The metals analyzed were Calcium, Iron, Magnesium, Manganese, Potassium, Sodium, Tin and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese Sodium	0.000710 mg/L 0.168 mg/L	HAR-29_011711_01
PB (prep blank)	Manganese Sodium	0.000750 mg/L 0.266 mg/L	HAR-29_011711_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-29_011711_01	Manganese	0.0018 mg/L	0.0018U mg/L
HAR-29_011711_01F	Manganese	0.00096 mg/L	0.00096U mg/L

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 290-11669-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 290-11669-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
290-11669-1	HAR-29_011711_01 HAR-29_011711_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 290-11669-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
290-11669-1	HAR-29_011711_01	Manganese	0.0018U mg/L	A	B
290-11669-1	HAR-29_011711_01F	Manganese	0.00096U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 290-11669-1

No Sample Data Qualified in this SDG

LDC #: 24910A4 (AH)

SDG #: 280-11669-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/14/11

Page: 1 of 1

Reviewer: CR

2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6010B/~~6020/7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	HAR-29_011711_01	11	PBW	21		31	
2	HAR-29_011711_01F	12		22		32	
3	HAR-29_011711_01MS	13		23		33	
4	HAR-29_011711_01MSD	14		24		34	
5	HAR-29_011711_01FMS	15		25		35	
6	HAR-29_011711_01FMSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

DC #: 044074

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1, 2		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SC)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
QC 3-6		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SC)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

LDC #: 24892A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: OR
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1									
Mn		0.000710		0.00355	0.0018									
Na		0.168		0.84										

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 2

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	2									
Mn		0.000750		0.00375	0.00096									
Na		0.266		1.33										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note: a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 25, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-1

Sample Identification

RD-36B_011711_01
RD-36C_011711_01
RD-36C_011711_01A
RD-36D_011711_01
ES-27_011711_01
ES-27_011711_01A
HAR-33_011711_01
HAR-33_011711_01A
HAR-25_011711_01
HAR-08_011711_01
HAR-29_011711_01
HAR-32_011711_01
RD-36C_011711_01MS
RD-36C_011711_01MSD
RD-36C_011711_01AMS
RD-36C_011711_01AMSD
RD-36C_011711_01ADUP
HAR-08_011711_01MS
HAR-08_011711_01MSD
HAR-29_011711_01DUP

Introduction

This data review covers 20 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride, Nitrate, Chloride and Sulfate, EPA Method 314.0 for Perchlorate, EPA Method 9040B for pH, EPA Method 180.1 for Turbidity, Method 2540C for Total Dissolved Solids and Method 2510B for Specific Conductance.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
RD-36B_011711_01	pH	49 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-36C_011711_01A	pH	48.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-36D_011711_01 HAR-33_011711_01A	pH	52.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
ES-27_011711_01A HAR-32_011711_01	pH	51.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-25_011711_01	pH	50.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-08_011711_01	pH	53.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-29_011711_01 HAR-29_011711_01DUP	pH	53.75 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

No field blanks were identified in this SDG.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11669-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11669-1	RD-36B_011711_01 RD-36C_011711_01A RD-36D_011711_01 ES-27_011711_01A HAR-33_011711_01A HAR-25_011711_01 HAR-08_011711_01 HAR-29_011711_01 HAR-32_011711_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11669-1	RD-36B_011711_01 RD-36C_011711_01 RD-36C_011711_01A RD-36D_011711_01 ES-27_011711_01 ES-27_011711_01A HAR-33_011711_01 HAR-33_011711_01A HAR-25_011711_01 HAR-08_011711_01 HAR-29_011711_01 HAR-32_011711_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

LDC #: 24910A6 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/14/11
SDG #: 280-11669-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer:

METHOD: (Analyte) Alkalinity (Method 2320B), Ammonia-N (EPA Method 350.2), Fluoride, Nitrate-N, Chloride, Sulfate(EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B) Turbidity (EPA Method 180.1) TDS (Method ~~2440C~~ 2540C), Specific Conductance (Method 2510B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/17/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-36B_011711_01	11	HAR-29_011711_01	21		31	PBW
2	RD-36C_011711_01	12	HAR-32_011711_01	22		32	
3	RD-36C_011711_01A	13	RD-36C_011711_01MS	23		33	
4	RD-36D_011711_01	14	RD-36C_011711_01MSD	24		34	
5	ES-27_011711_01	15	RD-36C_011711_01AMS	25		35	
6	ES-27_011711_01A	16	RD-36C_011711_01AMSD	26		36	
7	HAR-33_011711_01	17	RD-36C_011711_01ADUP	27		37	
8	HAR-33_011711_01A	18	HAR-08_011711_01MS	28		38	
9	HAR-25_011711_01	19	HAR-08_011711_01MSD	29		39	
10	HAR-08_011711_01	20	HAR-29_011711_01DUP	30		40	

Notes:

LDC #: 24904A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: AE
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,4,9,10,12		(pH) TDS Cl (F) NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO_4)
2,5,7		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
3,6,8		(pH) TDS C (F) NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
11		(pH) (TDS) (Cl F NO_3) NO_2 (SO_4) PO_4 (ALK) CN^- (NH_3) TKN TOC CR^{6+} (ClO_4) Cond Turb
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC: 13rd	15	pH TDS (Cl F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
14rd	16	pH TDS (Cl F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
15rd	17	pH TDS (Cl F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
16rd	13	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
17rd	14	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
18		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
19		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
20		(pH) (TDS) Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Turb Cond
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

LDC #: 24910A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: CR
2nd reviewer:

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:	9040B						
Parameters:	pH						
Technical holding time:	48 hrs						

Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
1	1/17/11 14:30	1/19/11 15:20	(49 hrs)				J/UJ/P (H)
3	15:00	15:22	(48.25hrs)				
4	11:07	15:25	(52.25hrs)				
6	12:08	15:28	(51.25hrs)				
8	11:23	15:32	(52.25hrs)				
9	13:23	15:34	(50.25hrs)				
10	10:05	15:36	(53.5hrs)				
11,20	10:30	16:11	(53.75hrs)				
12	13:05	16:14	(51.25hrs)				

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-1

Sample Identification

RD-36B_011711_01
RD-36C_011711_01
TB_RD-36C_011711
RD-36D_011711_01
RD-36C_011711_01MS
RD-36C_011711_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-49659/7	1/19/11	TPH as gasoline (C6-C12)	11.0 ug/L	All samples in SDG 280-11669-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-36B_011711_01	TPH as gasoline (C6-C12)	14 ug/L	100U ug/L
RD-36C_011711_01	TPH as gasoline (C6-C12)	40 ug/L	100U ug/L
TB_RD-36C_011711	TPH as gasoline (C6-C12)	7.6 ug/L	100U ug/L
RD-36D_011711_01	TPH as gasoline (C6-C12)	11 ug/L	100U ug/L

Sample TB_RD-36C_011711 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-36C_011711	1/17/11	TPH as gasoline (C6-C12)	7.6 ug/L	RD-36B_011711_01 RD-36C_011711_01 RD-36D_011711_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-36B_011711_01	TPH as gasoline (C6-C12)	14 ug/L	100U ug/L
RD-36D_011711_01	TPH as gasoline (C6-C12)	11 ug/L	100U ug/L

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-36B_011711_01	a,a,a-Trifluorotoluene	308 (82-110)	TPH as gasoline	J (all detects)	P

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-1	RD-36B_011711_01	TPH as gasoline	J (all detects)	P	Surrogate spikes (%R) (S)
280-11669-1	RD-32_020111_01 TB_RD-32_020111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11669-1	RD-36B_011711_01	TPH as gasoline (C6-C12)	100U ug/L	A	B
280-11669-1	RD-36C_011711_01	TPH as gasoline (C6-C12)	100U ug/L	A	B
280-11669-1	TB_RD-36C_011711	TPH as gasoline (C6-C12)	100U ug/L	A	B
280-11669-1	RD-36D_011711_01	TPH as gasoline (C6-C12)	100U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11669-1	RD-36B_011711_01	TPH as gasoline (C6-C12)	100U ug/L	A	T
280-11669-1	RD-36D_011711_01	TPH as gasoline (C6-C12)	100U ug/L	A	T

LDC #: 24910A7 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11669-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: NV
2nd Reviewer: 10

METHOD: GC TPH as Gasoline(EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	SW	
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW	TB = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-36B_011711_01	11	MB 280-49659/7	21		31	
2	RD-36C_011711_01	12		22		32	
3	TB_RD-36C_011711	13		23		33	
4	RD-36D_011711_01	14		24		34	
5	RD-36C_011711_01MS	15		25		35	
6	RD-36C_011711_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 29910 A7

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JV6
2nd Reviewer:

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: NA **Blank analysis date:** 1/19/11 **Associated samples:** All Code: B
Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	MB 280-49659/7	1	2	3	4			
$C_6 - C_{12}$	11.0	14 /100 u	40 /100 u	7.6 /100 u	11 /100 u			

Blank extraction date: _____ **Blank analysis date:** _____ **Associated samples:** _____
Conc. units: _____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24910 A7

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JV6
2nd Reviewer: [illegible]

METHOD: / GC __ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 1/17/11
Field blank type: (circle one) Field Blank / (Trip Blank) / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: 1, 2, 4 Code: T

Compound	Blank ID	Blank ID	Sample Identification							
	3		1	2	4					
$C_6 - C_{12}$	7.6		14/100 U	(40)	11/100 U					
CRQL										

5X
38

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24910 A7

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: LC

METHOD: ✓ **GC** ___ **HPLC**

Are surrogates required by the method? Yes ✓ or No ___.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples and blanks?

Y N N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	1	NS	C	308 (82-110)	J dets / p (5)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	1-Chlorooctadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin		
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate		
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Diesel

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-1

Sample Identification

RD-36B_011711_01
RD-36C_011711_01
RD-36D_011711_01
HAR-25_011711_01
HAR-08_011711_01
HAR-29_011711_01
RD-36C_011711_01MS
RD-36C_011711_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Total Petroleum Hydrocarbons (TPH) as Diesel.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as diesel contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-36C_011711_01MS/MSD (RD-36C_011711_01)	TPH as diesel (C8-C11)	0 (10-115)	0 (10-115)	-	J (all detects) R (all non-detects)	A

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-1	RD-36C_011711_01O	TPH as diesel (C8-C11)	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (M)
280-11669-1	RD-36B_011711_01 RD-36C_011711_01 RD-36D_011711_01 HAR-25_011711_01 HAR-08_011711_01 HAR-29_011711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Laboratory Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Field Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

LDC #: 24910A8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11669-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer:

METHOD: GC TPH as Diesel(Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	SW	
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-36B_011711_01	11	MB 280-49493/1-A	21		31	
2	RD-36C_011711_01	12		22		32	
3	RD-36D_011711_01	13		23		33	
4	HAR-25_011711_01	14		24		34	
5	HAR-08_011711_01	15		25		35	
6	HAR-29_011711_01	16		26		36	
7	RD-36C_011711_01MS	17		27		37	
8	RD-36C_011711_01MSD	18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 29910 A8

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: / GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(X) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
(Y) N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
Y (N) N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	7/8	$C_8 - C_{11}$	0 (10-115)	0 (10-115)	( )	2	J/R/A (CM)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-1/A1A130462

Sample Identification

RD-36B_011711_01
RD-36C_011711_01
RD-36D_011711_01
ES-27_011711_01
HAR-33_011711_01
HAR-25_011711_01
HAR-08_011711_01
HAR-29_011711_01
HAR-32_011711_01
RD_36C-011711_01MS
RD_36C-011711_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1019025-MB	1/19/11	Formaldehyde	21 ug/L	All samples in SDG 280-11669-1/A1A130462

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-36B_011711_01	Formaldehyde	21 ug/L	50U ug/L
RD-36C_011711_01	Formaldehyde	29 ug/L	50U ug/L
RD-36D_011711_01	Formaldehyde	27 ug/L	50U ug/L
ES-27_011711_01	Formaldehyde	25 ug/L	50U ug/L
HAR-33_011711_01	Formaldehyde	21 ug/L	50U ug/L
HAR-25_011711_01	Formaldehyde	23 ug/L	50U ug/L

Sample	Compound	Reported Concentration	Modified Final Concentration
HAR-08_011711_01	Formaldehyde	24 ug/L	50U ug/L
HAR-29_011711_01	Formaldehyde	22 ug/L	50U ug/L
HAR-32_011711_01	Formaldehyde	26 ug/L	50U ug/L

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-1/A1A130462	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11669-1/A1A130462

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-1/A1A130462	RD-36B_011711_01 RD-36C_011711_01 RD-36D_011711_01 ES-27_011711_01 HAR-33_011711_01 HAR-25_011711_01 HAR-08_011711_01 HAR-29_011711_01 HAR-32_011711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11669-1/A1A130462

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11669-1/A1A130462	RD-36B_011711_01	Formaldehyde	50U ug/L	A	B
280-11669-1/A1A130462	RD-36C_011711_01	Formaldehyde	50U ug/L	A	B
280-11669-1/A1A130462	RD-36D_011711_01	Formaldehyde	50U ug/L	A	B
280-11669-1/A1A130462	ES-27_011711_01	Formaldehyde	50U ug/L	A	B
280-11669-1/A1A130462	HAR-33_011711_01	Formaldehyde	50U ug/L	A	B
280-11669-1/A1A130462	HAR-25_011711_01	Formaldehyde	50U ug/L	A	B
280-11669-1/A1A130462	HAR-08_011711_01	Formaldehyde	50U ug/L	A	B
280-11669-1/A1A130462	HAR-29_011711_01	Formaldehyde	50U ug/L	A	B
280-11669-1/A1A130462	HAR-32_011711_01	Formaldehyde	50U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11669-1/A1A130462

No Sample Data Qualified in this SDG

LDC #: 24910A71 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11669-1/A1A130462 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-36B_011711_01	11	101925-MB	21		31	
2	RD-36C_011711_01	12		22		32	
3	RD-36D_011711_01	13		23		33	
4	ES-27_011711_01	14		24		34	
5	HAR-33_011711_01	15		25		35	
6	HAR-25_011711_01	16		26		36	
7	HAR-08_011711_01	17		27		37	
8	HAR-29_011711_01	18		28		38	
9	HAR-32_011711_01	19		29		39	
10	RD-36C_011711-01 MS	20		30		40	
11	RD-36C_011711-01 MSD						

Notes:

LDC #: 24910 A71

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: VL
2nd Reviewer: L

METHOD: __ GC __/HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 1/19/11 **Blank analysis date:** 1/20/11 **Associated samples:** All Code: B

Conc. units: ug/L

Compound	Blank ID	Sample Identification								
	1019025-MB	1	2	3	4	5	6	7	8	9
Formaldehyde	21	21/504	29/504	27/504	25/504	21/504	23/504	24/504	22/504	26/504

Blank extraction date: _____ **Blank analysis date:** _____ **Associated samples:** _____

Conc. units: _____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-1

Sample Identification

RD-36B_011711_01
RD-36C_011711_01
RD-36D_011711_01
ES-27_011711_01
HAR-33_011711_01
HAR-25_011711_01
HAR-08_011711_01
HAR-29_011711_01
HAR-32_011711_01
RD-36C_011711_01MS
RD-36C_011711_01MSD
HAR-29_011711_01DUP

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-49649/34	1/18/11	Hydrazine	1.04 ug/L	All samples in SDG 280-11669-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11669-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-1	RD-36B_011711_01 RD-36C_011711_01 RD-36D_011711_01 ES-27_011711_01 HAR-33_011711_01 HAR-25_011711_01 HAR-08_011711_01 HAR-29_011711_01 HAR-32_011711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11669-1

No Sample Data Qualified in this SDG

LDC #: 24910A76 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11669-1 Level V Page: 1 of 1
Laboratory: Test America Reviewer: SW
2nd Reviewer:

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates/LCS Dup	A/A	
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-36B_011711_01	11	RD-36C_011711_01MSD	21	MB 280-49644/3	31	
2	RD-36C_011711_01	12	HAR-29_011711_01DUP	22		32	
3	RD-36D_011711_01	13		23		33	
4	ES-27_011711_01	14		24		34	
5	HAR-33_011711_01	15		25		35	
6	HAR-25_011711_01	16		26		36	
7	HAR-08_011711_01	17		27		37	
8	HAR-29_011711_01	18		28		38	
9	HAR-32_011711_01	19		29		39	
10	RD-36C_011711_01MS	20		30		40	

Notes:

LDC #: 24910 A76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JM
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1-6,9	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
7,8		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments:

LDC #: 29910 A76

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: MC
2nd Reviewer: _____

METHOD: __ GC __/ **HPLC**

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 1/18/11 **Blank analysis date:** 1/19/11 **Associated samples:** All (ND)
Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	MB 280-49649/34							
Hydrazine	1.04							

Blank extraction date: _____ **Blank analysis date:** _____ **Associated samples:** _____
Conc. units: _____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 18, 2011
LDC Report Date:	February 25, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11696-2

Sample Identification

HAR-12_011811_36
FB_HAR-12_011811_19
HAR-14_011811_36
FB_HAR-14_011811_19

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples FB_HAR-12_011811_19 and FB_HAR-14_011811_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-12_011811_36 and HAR-12_011811_01 (from SDG 280-11696-1) and samples HAR-14_011811_36 and HAR-14_011811_01 (also from SDG 280-11696-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-12_011811_36	HAR-12_011811_01	
N-Nitrosodimethylamine	0.017	0.015	13 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-14_011811_36	HAR-14_011811_01	
N-Nitrosodimethylamine	4.9	5.1	4 (≤35)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11696-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-2	HAR-12_011811_36 FB_HAR-12_011811_19 HAR-14_011811_36 FB_HAR-14_011811_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11696-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11696-2

No Sample Data Qualified in this SDG

LDC #: 24910B2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11696-2 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: NG
2nd Reviewer: V

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_2 = 3 + HAR-14_011811_01 > both from 280-11696-1 D_1 = 1 + HAR-12_011811_01
XVII.	Field blanks	ND	FB = 2, 4

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-12_011811_36	11	MB 280-50194/1-A	21		31	
2	FB_HAR-12_011811_19	12		22		32	
3	HAR-14_011811_36	13		23		33	
4	FB_HAR-14_011811_19	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 24910 #26

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JV
2nd reviewer: [illegible]

METHOD: GC/MS ~~BNA~~ NDMA (EPA SW ~~846 Method 8270C~~) 1625

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds identified in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD
	1	HAR-12_011811-01	(≤35) RPD
NDMA	0.017	0.015	13

Compound	Concentration (ug/L)		RPD
	3	HAR-14_011811_01	≤35) RPD
NDMA	4.9	5.1	4

Compound	Concentration ( )		RPD

Compound	Concentration ( )		RPD

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 18, 2011

LDC Report Date: February 17, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11696-2

Sample Identification

HAR-13_011811_01
HAR-13_011811_01MS
HAR-13_011811_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. LC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Data Qualification Summary - SDG 280-11696-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-2	HAR-13_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-11696-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG 280-11696-2

No Sample Data Qualified in this SDG

LDC #: 24910B87 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11696-2 Level V Page: 1 of 1
Laboratory: Test America Reviewer: JVL
2nd Reviewer:

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	HAR-13_011811_01	11	MB 280-50737/4	21		31	
2	HAR-13_011811_01MS	12		22		32	
3	HAR-13_011811_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 11, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24920:

SDG #	Fraction
280-11696-1 /IUA1842 /A1A190522	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Metals, Wet Chemistry, Diesel Range Organics, Formaldehyde, Hydrazine

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV

LDC #24920 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr, 2011)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B)		1,2,3-TCP (524.2)		SVOA (8270C)		NDMA (1625)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)											
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11696-1 /IUA1842 /A1A190522	02/11/11	03/07/11	12	0	12	0	5	0	8	0	8	0	5	0	5	0	6	0	8	0	8	0	8	0	8	0									
Total	T/PG			12	0	12	0	5	0	8	0	8	0	5	0	5	0	6	0	8	0	8	0	8	0	8	0	0	0	0	0	0	0	0	93

Client Select IV

LDC #24920 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr, 2011)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.1)		Cl SO_4 (300.0)		F NO_3-N (300.0)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)																	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11696-1	02/11/11	03/07/11	5	0	8	0	5	0	8	0	5	0	8	0	8	0	5	0	5	0																
Total	T/PG			5	0	8	0	5	0	8	0	5	0	8	0	8	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 18, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11696-1

Sample Identification

RD-51_011811_01
TB_RD-51A_011811
RD-48A_011811_01
RD-48B_011811_01
PZ-076_011811_01
ES-26_011811_01
ES-26_011811_36
TB_ES-26_011811
HAR-12_011811_01
HAR-13_011811_01
TB_HAR-13_011811
HAR-14_011811_01
HAR-13_011811_01MS
HAR-13_011811_01MSD

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_RD-51A_011811, TB_ES-26_011811 and TB_HAR-13_011811 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Sample EB_RD-67-011311 (from SDG 280-11605-1) was identified an equipment blank. No 1,4-Dioxane was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples ES-26_011811_01 and ES-26_011811_36 were identified as field duplicates. No 1,4-Dioxane was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1	RD-51_011811_01 TB_RD-51A_011811 RD-48A_011811_01 RD-48B_011811_01 PZ-076_011811_01 ES-26_011811_01 ES-26_011811_36 TB_ES-26_011811 HAR-12_011811_01 HAR-13_011811_01 TB_HAR-13_011811 HAR-14_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 24920A1b

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-11696-1

Level V

Laboratory: Test America Laboratories, Inc.

Date: 2/16/11

Page: 1 of 1

Reviewer: JV

2nd Reviewer: V

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 6,7
XVII.	Field blanks	ND	TB = 2, 8, 11 FB = FB_011411_19 from 280-11638-1 EB = EB_RD-67_011311 (from 280-11605-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-51_011811_01	11	TB_HAR-13_011811	21	MB 280-50235/5	31	
2	TB_RD-51A_011811	12	HAR-14_011811_01	22	MB 280-50430/5	32	
3	RD-48A_011811_01	13	HAR-13_011811_01MS	23		33	
4	RD-48B_011811_01	14	HAR-13_011811_01MSD	24		34	
5	PZ-076_011811_01	15		25		35	
6	ES-26_011811_01 D	16		26		36	
7	ES-26_011811_36 D	17		27		37	
8	TB_ES-26_011811	18		28		38	
9	HAR-12_011811_01	19		29		39	
10	HAR-13_011811_01	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 18, 2011
LDC Report Date:	February 24, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11696-1/IUA1842

Sample Identification

RD-48A_011811_01
RD-48B_011811_01
TB_RD-48B_011811
PZ-076_011811_01
EB_PZ-076_011811
RD-48A_011811_01DUP

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_RD-48B_011811 was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

Sample EB_PZ-076_011811 was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1/IUA1842	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-11696-1/IUA1842

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1/IUA1842	RD-48A_011811_01 RD-48B_011811_01 TB_RD-48B_011811 PZ-076_011811_01 EB_PZ-076_011811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-11696-1/IUA1842

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-11696-1/IUA1842

No Sample Data Qualified in this SDG

LDC #: 24920A1c **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11696-1/IUA1842 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd
VII.	Matrix spike/Matrix spike duplicates (Lab Dup)	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3 EB = 5 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-48A_011811_01	11	IIA 2430-BLK1	21		31	
2	RD-48B_011811_01	12		22		32	
3	TB_RD-48B_011811	13		23		33	
4	PZ-076_011811_01	14		24		34	
5	EB_PZ-076_011811	15		25		35	
6	RD-48A_011811_01DUP	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 18, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11696-1

Sample Identification

RD-51_011811_01
RD-48A_011811_01
RD-48B_011811_01
ES-26_011811_01
ES-26_011811_36
HAR-12_011811_01
HAR-13_011811_01
HAR-14_011811_01
HAR-13_011811_01MS
HAR-13_011811_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples ES-26_011811_01 and ES-26_011811_36 were identified as field duplicates. No semivolatiles were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1	RD-51_011811_01 RD-48A_011811_01 RD-48B_011811_01 ES-26_011811_01 ES-26_011811_36 HAR-12_011811_01 HAR-13_011811_01 HAR-14_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 24920A2a

SDG #: 280-11696-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/16/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 4,5
XVII.	Field blanks	N	F

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-51_011811_01	11	MB 280-49644/1-A	21		31	
2	RD-48A_011811_01	12		22		32	
3	RD-48B_011811_01	13		23		33	
4	ES-26_011811_01 D	14		24		34	
5	ES-26_011811_36 D	15		25		35	
6	HAR-12_011811_01	16		26		36	
7	HAR-13_011811_01	17		27		37	
8	HAR-14_011811_01	18		28		38	
9	HAR-13_011811_01MS	19		29		39	
10	HAR-13_011811_01MSD	20		30		40	

Phthalates + NB = 1-3

NB = 4-8

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 18, 2011
LDC Report Date:	February 18, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11696-1

Sample Identification

RD-51_011811_01
RD-48A_011811_01
RD-48B_011811_01
ES-26_011811_01
ES-26_011811_36
HAR-12_011811_01
HAR-13_011811_01
HAR-14_011811_01
HAR-13_011811_01MS
HAR-13_011811_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples FB_HAR-12_011811_36, and FB_HAR-14_011811_19 (both from SDG 280-11696-2) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-12-011811_36 (from SDG 280-11696-2) and HAR-12_011811_01, samples HAR-14_011911_36 (from SDG 280-11696-2) and HAR-14_011811_01, and samples ES-26_011811_01 and ES-26_011811_36 were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-12_011811_01,	HAR-12-011811_36	
N-Nitrosodimethylamine	0.015	0.017	13 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-14_011811_01	HAR-14_011911_36	
N-Nitrosodimethylamine	5.1	4.9	4 (≤35)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1	RD-51_011811_01 RD-48A_011811_01 RD-48B_011811_01 ES-26_011811_01 ES-26_011811_36 HAR-12_011811_01 HAR-13_011811_01 HAR-14_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 24920A2b

SDG #: 280-11696-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/16/11

Page: 1 of 1

Reviewer: MV

2nd Reviewer: V

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_1 = 6 + HAR-12_011811-36 ; D_2 = 8 + HAR-14-011811-36 > (both from 280-11696-2) + D_3 = 4.5
XVII.	Field blanks	ND	FB = FB_HAR-12_011811_19 ; FB_HAR-14_011811_19 (both from 280-11696-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	RD-51_011811_01	11	MB 280-49687/1-A	21		31	
2	RD-48A_011811_01	12	MB 280-50194/1-A	22		32	
3	RD-48B_011811_01	13		23		33	
4	ES-26_011811_01 D_3	14		24		34	
5	ES-26_011811_36 D_2	15		25		35	
6	HAR-12_011811_01 D_1	16		26		36	
7	HAR-13_011811_01	17		27		37	
8	HAR-14_011811_01 D_4	18		28		38	
9	HAR-13_011811_01MS	19		29		39	
10	HAR-13_011811_01MSD	20		30		40	

LDC #: 29920 A26

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: JM
2nd reviewer:

METHOD: GC/MS BNA (EPA SW-846 ~~Method 8270~~ NDMA 625 C)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds identified in the field duplicate pairs?

Compound	Concentration (MG/L)		RPD (≤35)
	6	HAR-12_011811-36	RPD
NDMA	0.015	0.017	13

Compound	Concentration ( )		RPD
	8	HAR-14_011811-36	
NDMA	5.1	4.9	4

Compound	Concentration ( )		RPD

Compound	Concentration ( )		RPD

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 18, 2011

LDC Report Date: February 25, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11696-1

Sample Identification

ES-26_011811_01
ES-26_011811_36
HAR-12_011811_01
HAR-13_011811_01
HAR-14_011811_01
ES-26_011811_01F
ES-26_011811_36F
HAR-12_011811_01F
HAR-13_011811_01F
HAR-14_011811_01F
HAR-13_011811_01MS
HAR-13_011811_01MSD
HAR-13_011811_01FMS
HAR-13_011811_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B for Metals. The metals analyzed were Calcium, Iron, Magnesium, Manganese, Potassium, Sodium, Strontium and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.0997 mg/L	ES-26_011811_01 ES-26_011811_36 HAR-12_011811_01 HAR-13_011811_01 HAR-14_011811_01
PB (prep blank)	Sodium	0.0921 mg/L	ES-26_011811_01F ES-26_011811_36F HAR-12_011811_01F HAR-13_011811_01F HAR-14_011811_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11696-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples ES-26_011811_01 and ES-26_011811_36 and samples ES-26_011811_01F and ES-26_011811_36F were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)
	ES-26_011811_01	ES-26_011811_36	
Calcium	140	140	0 (≤35)

Analyte	Concentration (mg/L)		RPD (Limits)
	ES-26_011811_01	ES-26_011811_36	
Iron	0.15	0.15	0 (≤35)
Magnesium	16	16	0 (≤35)
Manganese	0.13	0.13	0 (≤35)
Potassium	1.9	1.9	0 (≤35)
Sodium	91	92	1 (≤35)
Strontium	0.78	0.78	0 (≤35)
Zinc	0.13	0.13	0 (≤35)

Analyte	Concentration (mg/L)		RPD (Limits)
	ES-26_011811_01F	ES-26_011811_36F	
Calcium	140	140	0 (≤35)
Iron	0.12	0.12	0 (≤35)
Magnesium	16	16	0 (≤35)
Manganese	0.13	0.13	0 (≤35)
Potassium	1.9	1.9	0 (≤35)
Sodium	90	92	2 (≤35)
Strontium	0.76	0.78	3 (≤35)
Zinc	0.12	0.12	0 (≤35)

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11696-1	ES-26_011811_01 ES-26_011811_36 HAR-12_011811_01 HAR-13_011811_01 HAR-14_011811_01 ES-26_011811_01F ES-26_011811_36F HAR-12_011811_01F HAR-13_011811_01F HAR-14_011811_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 24920A4 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11696-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: GR
2nd Reviewer: ✓

METHOD: Metals (EPA SW 846 Method 6010B/~~6020/7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	SW	(1,2),(6,7)
XV	Field Blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	ES-26_011811_01	11	HAR-13_011811_01MS	21		31	
2	ES-26_011811_36	12	HAR-13_011811_01MSD	22		32	
3	HAR-12_011811_01	13	↓ FMS	23		33	
4	HAR-13_011811_01	14	↓ FMSD	24		34	
5	~~TB~~ HAR-13 (4) 011811_01	15		25		35	
6	ES-26_011811_01F	16		26		36	
7	ES-26_011811_36F	17		27		37	
8	HAR-12_011811_01F	18		28		38	
9	HAR-13_011811_01F	19		29		39	
10	~~TB~~ HAR-13 (4) 011811_01F	20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

LDC #: 24W0FJ4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: W

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-10		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg, Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN⁻, (SC)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
QC-MS 11-14		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg, Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN⁻, (SC)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg, Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN⁻, (SC)
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,

Comments: Mercury by CVAA if performed

LDC #: 24920A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer:
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1-5

				Sample Identification										
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Action Limit	No Qualifiers										
Na		0.0997	0.4985											

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 6-10

				Sample Identification										
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Action Limit	No Qualifiers										
Na		0.0921	0.4605											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC#: 24920A4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	1	2		
Calcium	140	140	0	
Iron	0.15	0.15	0	
Magnesium	16	16	0	
Manganese	0.13	0.13	0	
Potassium	1.9	1.9	0	
Sodium	91	92	1	
Strontium	0.78	0.78	0	
Zinc	0.13	0.13	0	

V:\FIELD DUPLICATES\FD_inorganic\24920A4.wpd

Analyte	Concentration (mg/L)		RPD (≤35)	
	6	7		
Calcium	140	140	0	
Iron	0.12	0.12	0	
Magnesium	16	16	0	
Manganese	0.13	0.13	0	
Potassium	1.9	1.9	0	
Sodium	90	92	2	
Strontium	0.76	0.78	3	
Zinc	0.12	0.12	0	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 18, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11696-1

Sample Identification

RD-51_011811_01
TB_RD-51A_011811
RD-48A_011811_01
RD-48B_011811_01
PZ-076_011811_01
ES-26_011811_01
ES-26_011811_36
TB_ES-26_011811
HAR-12_011811_01
HAR-13_011811_01
TB_HAR-13_011811
HAR-14_011811_01
HAR-13_011811_01MS
HAR-13_011811_01MSD

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-51A_011811, TB_ES-26_011811 and TB_HAR-13_011811 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-51A_011811	1/18/11	Methylene chloride	0.40 ug/L	RD-51_011811_01
TB_ES-26_011811	1/18/11	Methylene chloride	0.41 ug/L	ES-26_011811_01 ES-26_011811_36
TB_HAR-13_011811	1/18/11	Methylene chloride	0.65 ug/L	HAR-12_011811_01 HAR-13_011811_01 HAR-14_011811_01

Sample EB_RD-67-011311 (from SDG 280-11605-1) was identified an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_RD-67-011311	1/13/11	Chloroform	5.8 ug/L	PZ-076_011811_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform	2.5 ug/L	PZ-076_011811_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
TB_RD-51A_011811	1,2-Dichloroethane-d4	79 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
MB 280-49839/5	1,2-Dichloroethane-d4	77 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples ES-26_011811_01 and ES-26_011811_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	ES-26_011811_01	ES-26_011811_36			
1,1,2-Trichloro-1,2,2-trifluoroethane	15	15	0	-	-
cis-1,2-Dichloroethene	1.7	1.7	0	-	-
Trichloroethene	7.9	7.7	3	-	-

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1	TB_RD-51A_011811	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-11696-1	RD-51_011811_01 TB_RD-51A_011811 RD-48A_011811_01 RD-48B_011811_01 PZ-076_011811_01 ES-26_011811_01 ES-26_011811_36 TB_ES-26_011811 HAR-12_011811_01 HAR-13_011811_01 TB_HAR-13_011811 HAR-14_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 24920A1a
SDG #: 280-11696-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 2/16/11
Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 6,7
XVII.	Field blanks	SW	TB = 2, 8, 11 TB = FB_011411_19 (from 280-11638-1) EB = EB_RD-67_011311 (from 280-11605-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

+ 1	RD-51_011811_01	+ 11	TB_HAR-13_011811	- 21	MB 280-49879/5	31	
+ 2	TB_RD-51A_011811	12	HAR-14_011811_01	- 22	MB 280-49867/4	32	
- 3	RD-48A_011811_01	13	~~TB_RD-51A_011811MS~~	23		33	
- 4	RD-48B_011811_01	14	~~TB_RD-51A_011811MSD~~	24		34	
+ 5	PZ-076_011811_01	15	HAR-13_011811_01MS	25		35	
+ 6	ES-26_011811_01 D	16	HAR-13_011811_01MSD	26		36	
+ 7	ES-26_011811_36 D	17		27		37	
+ 8	TB_ES-26_011811	18		28		38	
+ 9	HAR-12_011811_01	19		29		39	
10	HAR-13_011811_01	20		30		40	

VOCs + IPA = 1-4, 6-12
VOCs = 5

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 29920A1c

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 1 (ND)

Compound	Blank ID 2	Blank ID	Sample Identification								
Sampling Date	1/18/11										
Methylene chloride (E)	0.40										
Acetone											
Chloroform											
CRQL											

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 6, 7 (ND)

Compound	Blank ID 8	Blank ID	Sample Identification								
Sampling Date	1/18/11										
Methylene chloride (E)	0.41										
Acetone											
Chloroform											
CRQL											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24920 A1c

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 2 of 2
Reviewer: JVL
2nd Reviewer: LN

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 5 (ND)

(from 280-116282-1) Compound	FB_011411_19 Blank ID	EB_RD67_011311 Blank ID	Sample Identification							
Sampling Date	1/14/11	1/13/11								
~~Methylene chloride~~ K	2.5	5.8								
~~Acetone~~ FF	~~0.40~~									
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 9, 10, 12 (ND)

Compound	Blank ID 11	Blank ID	Sample Identification							
Sampling Date	1/18/11									
Methylene chloride (E)	0.65									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24920 A1K

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: NC
2nd Reviewer: L

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		2	DCE	79 (80-120)	J/UJ/p (S)
		MB280-49839/5	↓	77 ( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC#:24920A1a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVL
2nd Reviewer: L

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	6	7		
1,1,2-Trichloro-1,2,2-trifluoroethane	15	15	0	
cis-1,2-Dichloroethene	1.7	1.7	0	
Tichloroethene	7.9	7.7	3	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 18, 2011

LDC Report Date: February 25, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11696-1

Sample Identification

RD-51_011811_01
RD-51A_011811_01A
RD-48A_011811_01
RD-48B_011811_01
ES-26_011811_01
ES-26_011811_36
ES-26_011811_01A
ES-26_011811_36A
HAR-12_011811_01
HAR-13_011811_01
HAR-13_011811_01A
HAR-14_011811_01
ES-26_011811_36ADUP
HAR-13_011811_01MS
HAR-13_011811_01MSD
HAR-13_011811_01AMS
HAR-13_011811_01AMSD
HAR-13_011811_01ADUP

Introduction

This data review covers 18 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride, Nitrate, Chloride and Sulfate, EPA Method 314.0 for Perchlorate, EPA Method 9040B for pH, Method 2540C for Total Dissolved Solids and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
RD-51A_011811_01A	pH	53.75 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-48A_011811_01	pH	52 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-48B_011811_01 HAR-14_011811_01	pH	52.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
ES-26_011811_01A ES-26_011811_36A	pH	49.75 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-12_011811_01	pH	50.75 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-13_011811_01A	pH	51 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Continuing calibration data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0627 mg/L	RD-51_011811_01 RD-48A_011811_01 RD-48B_011811_01 ES-26_011811_01 ES-26_011811_36 HAR-12_011811_01 HAR-13_011811_01 HAR-14_011811_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-51_011811_01	Ammonia as N	0.11 mg/L	0.11U mg/L
RD-48A_011811_01	Ammonia as N	0.25 mg/L	0.25U mg/L
RD-48B_011811_01	Ammonia as N	0.25 mg/L	0.25U mg/L
ES-26_011811_01	Ammonia as N	0.25 mg/L	0.25U mg/L
ES-26_011811_36	Ammonia as N	0.16 mg/L	0.16U mg/L
HAR-12_011811_01	Ammonia as N	0.067 mg/L	0.067U mg/L
HAR-13_011811_01	Ammonia as N	0.063 mg/L	0.063U mg/L
HAR-14_011811_01	Ammonia as N	0.087 mg/L	0.087U mg/L

No field blanks were identified in this SDG.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11696-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples ES-26_011811_01 and ES-26_011811_36 and samples ES-26_011811_01A and ES-26_011811_36A were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	ES-26_011811_01	ES-26_011811_36			
Ammonia as N	0.25	0.16	44 (≤35)	NQ	-

Analyte	Concentration		RPD (Limits)	Flags	A or P
	ES-26_011811_01A	ES-26_011811_36A			
Fluoride	0.53 mg/L	0.52 mg/L	2 (≤35)	-	-
Chloride	100 mg/L	100 mg/L	0 (≤35)	-	-
Nitrate	13 mg/L	12 mg/L	8 (≤35)	-	-
Sulfate	180 mg/L	180 mg/L	0 (≤35)	-	-
Turbidity	0.62 NTU	0.97 NTU	44 (≤35)	NQ	-
pH	7.22	7.25	0 (≤35)	-	-

Analyte	Concentration		RPD (Limits)	Flags	A or P
	ES-26_011811_01A	ES-26_011811_36A			
Specific Conductance	1200 umhos/cm	1200 umhos/cm	0 (≤35)	-	-
Total dissolved solids	750 mg/L	730 mg/L	3 (≤35)	-	-
Alkalinity	310 mg/L	310 mg/L	0 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11696-1	RD-51A_011811_01A RD-48A_011811_01 RD-48B_011811_01 ES-26_011811_01A ES-26_011811_36A HAR-12_011811_01 HAR-13_011811_01A HAR-14_011811_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11696-1	RD-51_011811_01 RD-51A_011811_01A RD-48A_011811_01 RD-48B_011811_01 ES-26_011811_01 ES-26_011811_36 ES-26_011811_01A ES-26_011811_36A HAR-12_011811_01 HAR-13_011811_01 HAR-13_011811_01A HAR-14_011811_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11696-1	RD-51_011811_01	Ammonia as N	0.11U mg/L	A	B
280-11696-1	RD-48A_011811_01	Ammonia as N	0.25U mg/L	A	B
280-11696-1	RD-48B_011811_01	Ammonia as N	0.25U mg/L	A	B
280-11696-1	ES-26_011811_01	Ammonia as N	0.25U mg/L	A	B
280-11696-1	ES-26_011811_36	Ammonia as N	0.16U mg/L	A	B
280-11696-1	HAR-12_011811_01	Ammonia as N	0.067U mg/L	A	B
280-11696-1	HAR-13_011811_01	Ammonia as N	0.063U mg/L	A	B
280-11696-1	HAR-14_011811_01	Ammonia as N	0.087U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 24920A6

SDG #: 280-11696-1

Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2-16-11

Page: 1 of 1

Reviewer: CR

2nd Reviewer: MH

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.2), Conductivity (SM2510B), Chloride, Fluoride, Nitrate-N, Sulfate (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/18/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(5,6), (7,8)
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-51_011811_01	11	HAR-13_011811_01A	21		31	
2	RD-51A_011811_01A	12	HAR-14_011811_01	22		32	
3	RD-48A_011811_01	13	ES-26_011811_36ADUP	23		33	
4	RD-48B_011811_01	14	HAR-13_011811_01MS	24		34	
5	ES-26_011811_01	15	HAR-13_011811_01MSD	25		35	
6	ES-26_011811_36	16	HAR-13_011811_01AMS	26		36	
7	ES-26_011811_01A	17	HAR-13_011811_01AMSD	27		37	
8	ES-26_011811_36A	18	HAR-13_011811_01ADUP	28		38	
9	HAR-12_011811_01	19		29		39	
10	HAR-13_011811_01	20		30		40	

Notes:

LDC #: 24920A76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CC
2nd reviewer: V

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,5,6,10		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC Cr^{6+} ClO_4
2		(**pH**) TDS Cl (**F**) (**NO_3**) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} (**ClO_4**)
3,4		(**pH**) TDS Cl (**F**) **NO_3** NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC Cr^{6+} (**ClO_4**)
7,8,11		(**pH**) (**TDS**) Cl F **NO_3** NO_2 (**SO_4**) PO_4 (**ALK**) CN^- NH_3 TKN TOC Cr^{6+} (**ClO_4**) Turb. Cond.
9,12		(**pH**) TDS Cl F **NO_3** NO_2 (**SO_4**) PO_4 (**ALK**) CN^- (**NH_3**) TKN TOC Cr^{6+} (**ClO_4**) Turb Cond.
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
QC: 13		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 (**ALK**) CN^- NH_3 TKN TOC Cr^{6+} ClO_4 Cond
14		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC Cr^{6+} ClO_4
15		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC Cr^{6+} ClO_4
16		pH TDS (**Cl**) (**F**) (**NO_3**) NO_2 (**SO_4**) PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} (**ClO_4**)
17		pH TDS (**Cl**) (**F**) (**NO_3**) NO_2 (**SO_4**) PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} (**ClO_4**)
18		pH TDS (**Cl**) (**F**) (**NO_3**) NO_2 (**SO_4**) PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} (**ClO_4**) Turb
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC Cr^{6+} ClO_4

Comments:

LDC #: 24920A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: CR
2nd reviewer:

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:	9040B					
Parameters:	pH					
Technical holding time:	48hrs					

Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
2	1/18/11 09:40	1/20/11 15:21	(53.75hrs)				J/UJ/P (H)
3	11:20	15:23	(52 hrs)				↓
4	10:57	15:27	(52.5hrs)				
7	13:42	15:28	(49.75hrs)				
8	13:42	15:29	↓				
9	12:45	15:31	(50.75hrs)				
11	12:30	15:33	(51 hrs)				
12	10:00	15:37	(52.5hrs)				↓

LDC #: 24920A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples:** 1, 3-6, 9, 10, 12 **Reason Code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		1	3	4	5	6	9	10	12		
NH3-N	0.0627		0.3135	0.11	0.25	0.25	0.25	0.16	0.067	0.063	0.087		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC# 24920A6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: C
2nd Reviewer: [illegible]

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	Qualifiers (Parents Only)
	5	6		
Ammonia as N	0.25	0.16	44	NA (<5xRL)

Analyte	Concentration (mg/L)		RPD (≤35)	Qualifiers (Parents Only)
	7	8		
Fluoride	0.53	0.52	2	
Chloride	100	100	0	
Nitrate	13	12	8	
Sulfate	180	180	0	
Turbidity (NTU)	0.62	0.97	44	NA (<5xRL)
pH (no units)	7.22	7.25	0	
Specific Conductance (umhos/cm)	1200	1200	0	
TDS	750	730	3	
Alkalinity	310	310	0	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 18, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Diesel

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11696-1

Sample Identification

RD-51_011811_01
RD-48A_011811_01
RD-48B_011811_01
HAR-12_011811_01
HAR-13_011811_01
HAR-14_011811_01
HAR-13_011811_01MS
HAR-13_011811_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Total Petroleum Hydrocarbons (TPH) as Diesel.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1	RD-51_011811_01 RD-48A_011811_01 RD-48B_011811_01 HAR-12_011811_01 HAR-13_011811_01 HAR-14_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 24920A8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11696-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JWC
2nd Reviewer: L

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-51_011811_01	11	MB 280-49636/1-A	21		31	
2	RD-48A_011811_01	12		22		32	
3	RD-48B_011811_01	13		23		33	
4	HAR-12_011811_01	14		24		34	
5	HAR-13_011811_01	15		25		35	
6	HAR-14_011811_01	16		26		36	
7	HAR-13_011811_01MS	17		27		37	
8	HAR-13_011811_01MSD	18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 18, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11696-1

Sample Identification

RD-51_011811_01
RD-48A_011811_01
RD-48B_011811_01
ES-26_011811_01
ES-26_011811_36
HAR-12_011811_01
HAR-13_011811_01
HAR-14_011811_01
HAR-13_011811_01MS
HAR-13_011811_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples ES-26_011811_01 and ES-26_011811_36 were identified as field duplicates. No hydrazines were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11696-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1	RD-51_011811_01 RD-48A_011811_01 RD-48B_011811_01 ES-26_011811_01 ES-26_011811_36 HAR-12_011811_01 HAR-13_011811_01 HAR-14_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11696-1

No Sample Data Qualified in this SDG

LDC #: 24920A76 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11696-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SK
2nd Reviewer:

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	~~SW~~ A	Sampling dates: 1/18/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 4,5
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-51_011811_01	11	MB280-50217/25	21		31	
2	RD-48A_011811_01	12		22		32	
3	RD-48B_011811_01	13		23		33	
4	ES-26_011811_01 D	14		24		34	
5	ES-26_011811_36 D	15		25		35	
6	HAR-12_011811_01	16		26		36	
7	HAR-13_011811_01	17		27		37	
8	HAR-14_011811_01	18		28		38	
9	HAR-13_011811_01MS	19		29		39	
10	HAR-13_011811_01MSD	20		30		40	

Notes:

LDC #: 24920 A76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: JV6
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1-8	W	Hydrazine	1,1-Dimethylhydrazine	~~Monomethyl Hydrazine~~
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
9-10	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 18, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11696-1/A1A190522

Sample Identification

RD-51A_011811_01A
RD-48A_011811_01
RD-48B_011811_01
ES-26_011811_01
ES-26_011811_36
HAR-12_011811_01
HAR-13_011811_01
HAR-14_011811_01
RD-51A_011811_01AMS
RD-51A_011811_01AMSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11696-1/A1A190522	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples ES-26_011811_01 and ES-26_011811_36 were identified as field duplicates. No formaldehyde was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11696-1/A1A190522

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11696-1/A1A190522	RD-51A_011811_01A RD-48A_011811_01 RD-48B_011811_01 ES-26_011811_01 ES-26_011811_36 HAR-12_011811_01 HAR-13_011811_01 HAR-14_011811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11696-1/A1A190522

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11696-1/A1A190522

No Sample Data Qualified in this SDG

LDC #: 24920A71 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11696-1/A1A190522 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JV
2nd Reviewer: [signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/18/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 4, 5
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-51A_011811_01A	11	10 2 1 2 1 8 - MB	21		31	
2	RD-48A_011811_01	12		22		32	
3	RD-48B_011811_01	13		23		33	
4	ES-26_011811_01 D	14		24		34	
5	ES-26_011811_36 D	15		25		35	
6	HAR-12_011811_01	16		26		36	
7	HAR-13_011811_01	17		27		37	
8	HAR-14_011811_01	18		28		38	
9	RD-51A_011811_01AMS	19		29		39	
10	RD-51A_011811_01AMSD	20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on March 4, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25067:

SDG #	Fraction
IUB0641, IUB1285 280-12173-1/ IUB0589/ A1B030463	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Wet Chemistry, Gasoline Range Organics, Diesel Range Organics, Formaldehyde, Hydrazine, Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

V:\LOGIN\MWH\Boeing\25067COV.wpd

EDD Client Select IV

LDC #25067 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		NDMA (1625)		Pest (8081A)		PCB (8082)		Metals (SW846)		Diss. Metals (SW846)		GRO (8015B)		DRO (8015B)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxins (8290)			
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	IUB0641	03/04/11	03/25/11	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0	1	0	-	-	1	0	-	-	-	-	-	-	-	-	1	0		
C	280-12173-1/ IUB0589/ A1B030463	03/04/11	03/25/11	9	0	9	0	7	0	5	0	6	0	0	0	-	-	1	0	1	0	4	0	5	0	5	0	6	0	6	0	6	0	-	-		
C	280-12173-1/ IUB0589/ A1B030463	03/04/11	03/25/11	0	0	0	0	4	0	0	0	0	0	3	0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
Total	A/PG			9	0	9	0	11	0	5	0	6	0	3	0	1	0	2	0	2	0	4	0	6	0	5	0	6	0	6	0	6	0	1	0	0	82

Client Select IV

LDC #25067 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.1)		Cl SO_4 (300.0)		F NO_3-N (300.0)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		Cr(VI) (7196A)		Diss CR(VI) (7196A)		Cyanide (9014)		=S (4500)									
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
A	IUB0641	03/04/11	03/25/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0	-	-	-	-								
B	IUB1285	03/04/11	03/25/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	0								
C	280-12173-1	03/04/11	03/25/11	1	0	5	0	1	0	5	0	1	0	8	0	5	0	1	0	1	0	-	-	-	-	-	-	-	-								
Total	A/PG			1	0	5	0	1	0	5	0	1	0	8	0	5	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	32

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 11, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0641

Sample Identification

PZ-141_020411_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1041219-BLK	1/20/11	2,3,7,8-TCDD	0.57 pg/L	All samples in SDG IUB0641
		1,2,3,7,8-PeCD	2.8 pg/L	
		1,2,3,4,7,8-HxCDD	4.4 pg/L	
		1,2,3,6,7,8-HxCDD	3.9 pg/L	
		1,2,3,7,8,9-HxCDD	3.7 pg/L	
		1,2,3,4,6,7,8-HpCDD	4.6 pg/L	
		OCDD	12 pg/L	
		1,2,3,7,8-PeCDF	1.9 pg/L	
		2,3,4,7,8-PeCDF	2 pg/L	
		1,2,3,4,7,8-HxCDF	4.6 pg/L	
		1,2,3,6,7,8-HxCDF	4.6 pg/L	
		2,3,4,6,7,8-HxCDF	3.7 pg/L	
		1,2,3,7,8,9-HxCDF	4.8 pg/L	
		1,2,3,4,6,7,8-HpCDF	5.8 pg/L	
		1,2,3,4,7,8,9-HpCDF	5.2 pg/L	
		OCDF	6.7 pg/L	
		Total TCDD	1.9 pg/L	
		Total PeCDD	2.8 pg/L	
		Total HxCDD	13 pg/L	
		Total HpCDD	6.1 pg/L	
		Total TCDF	0.54 pg/L	
		Total PeCDF	4.4 pg/L	
		Total HxCDF	18 pg/L	
		Total HpCDF	6.1 pg/L	

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-141_020411_03	1,2,3,4,7,8-HxCDD	1.5 pg/L	1.5U pg/L
	1,2,3,6,7,8-HxCDD	1.7 pg/L	1.7U pg/L
	1,2,3,7,8,9-HxCDD	1 pg/L	1U pg/L
	1,2,3,4,6,7,8-HpCDD	2.4 pg/L	2.4U pg/L
	OCDD	12 pg/L	12U pg/L
	2,3,4,7,8-PeCDF	0.98 pg/L	0.98U pg/L
	1,2,3,4,7,8-HxCDF	1.7 pg/L	1.7U pg/L
	1,2,3,6,7,8-HxCDF	1.8 pg/L	1.8U pg/L
	2,3,4,6,7,8-HxCDF	1.7 pg/L	1.7U pg/L
	1,2,3,4,6,7,8-HpCDF	2.4 pg/L	2.4U pg/L
	1,2,3,4,7,8,9-HpCDF	1.4 pg/L	1.4U pg/L
	OCDF	4 pg/L	4U pg/L
	Total HxCDD	4.2 pg/L	4.2U pg/L
	Total HpCDD	3.7 pg/L	3.7U pg/L
	Total PeCDF	0.98 pg/L	0.98U pg/L
	Total HxCDF	5.2 pg/L	5.2U pg/L
	Total HpCDF	3.8 pg/L	3.8U pg/L

Sample EB_PZ-141_020311 (from SDG 280-12223-1) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11648-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD	0.70 pg/L	PZ-141_020411_03
		1,2,3,4,7,8-HxCDD	0.42 pg/L	
		1,2,3,7,8,9-HxCDD	0.48 pg/L	
		1,2,3,4,6,7,8-HpCDD	1.3 pg/L	
		OCDD	2.2 pg/L	
		1,2,3,7,8-PeCDF	0.48 pg/L	
		2,3,4,7,8-PeCDF	0.40 pg/L	
		1,2,3,4,7,8-HxCDF	0.50 pg/L	
		2,3,4,6,7,8-HxCDF	0.52 pg/L	
		1,2,3,7,8,9-HxCDF	0.78 pg/L	
		1,2,3,4,6,7,8-HpCDF	0.78 pg/L	
		1,2,3,4,7,8,9-HpCDF	0.74 pg/L	
		OCDF	2.0 pg/L	

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-141_020411_03	1,2,3,4,7,8-HxCDD	1.5 pg/L	1.5U pg/L
	1,2,3,7,8,9-HxCDD	1 pg/L	1U pg/L
	1,2,3,4,6,7,8-HpCDD	2.4 pg/L	2.4U pg/L
	2,3,4,7,8-PeCDF	0.98 pg/L	0.98U pg/L
	1,2,3,4,7,8-HxCDF	1.7 pg/L	1.7U pg/L
	2,3,4,6,7,8-HxCDF	1.7 pg/L	1.7U pg/L
	1,2,3,4,6,7,8-HpCDF	2.4 pg/L	2.4U pg/L
	1,2,3,4,7,8,9-HpCDF	1.4 pg/L	1.4U pg/L
	OCDF	4 pg/L	4U pg/L

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0641	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-141_020411_03 and PZ-141_020411_01 (from SDG 280-12250-1) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-141_020411_01	PZ-141_020411_03			
1,2,3,4,7,8-HxCDD	48U	1.5	188 (≤35)	NQ	-
1,2,3,6,7,8-HxCDD	48U	1.7	186 (≤35)	NQ	-
1,2,3,7,8,9-HxCDD	48U	1	192 (≤35)	NQ	-
1,2,3,4,6,7,8-HpCDD	48U	2.4	181 (≤35)	NQ	-
OCDD	48U	12	120 (≤35)	NQ	-
2,3,4,7,8-PeCDF	48U	0.98	192 (≤35)	NQ	-
1,2,3,4,7,8-HxCDF	48U	1.7	186 (≤35)	NQ	-
1,2,3,6,7,8-HxCDF	48U	1.8	186 (≤35)	NQ	-
2,3,4,6,7,8-HxCDF	48U	1.7	186 (≤35)	NQ	-
1,2,3,4,6,7,8-HpCDF	48U	2.4	181 (≤35)	NQ	-
1,2,3,4,7,8,9-HpCDF	48U	1.4	189 (≤35)	NQ	-
OCDF	95U	4	184 (≤35)	NQ	-
Total HxCDD	Not Reported	4.2	-	-	-
Total HpCDD	Not Reported	3.7	-	-	-
Total PeCDF	Not Reported	0.98	-	-	-
Total HxCDF	Not Reported	5.2	-	-	-
Total HpCDF	Not Reported	3.8	-	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG IUB0641

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0641	PZ-141_020411_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG IUB0641

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
IUB0641	PZ-141_020411_03	1,2,3,4,7,8-HxCDD	1.5U pg/L	A	B
		1,2,3,6,7,8-HxCDD	1.7U pg/L		
		1,2,3,7,8,9-HxCDD	1U pg/L		
		1,2,3,4,6,7,8-HpCDD	2.4U pg/L		
		OCDD	12U pg/L		
		2,3,4,7,8-PeCDF	0.98U pg/L		
		1,2,3,4,7,8-HxCDF	1.7U pg/L		
		1,2,3,6,7,8-HxCDF	1.8U pg/L		
		2,3,4,6,7,8-HxCDF	1.7U pg/L		
		1,2,3,4,6,7,8-HpCDF	2.4U pg/L		
		1,2,3,4,7,8,9-HpCDF	1.4U pg/L		
		OCDF	4U pg/L		
		Total HxCDD	4.2U pg/L		
		Total HpCDD	3.7U pg/L		
		Total PeCDF	0.98U pg/L		
		Total HxCDF	5.2U pg/L		
		Total HpCDF	3.8U pg/L		

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG IUB0641

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
IUB0641	PZ-141_020411_03	1,2,3,4,7,8-HxCDD	1.5U pg/L	A	F
		1,2,3,7,8,9-HxCDD	1U pg/L		
		1,2,3,4,6,7,8-HpCDD	2.4U pg/L		
		2,3,4,7,8-PeCDF	0.98U pg/L		
		1,2,3,4,7,8-HxCDF	1.7U pg/L		
		2,3,4,6,7,8-HxCDF	1.7U pg/L		
		1,2,3,4,6,7,8-HpCDF	2.4U pg/L		
		1,2,3,4,7,8,9-HpCDF	1.4U pg/L		
		OCDF	4U pg/L		

LDC #: 25067A21
SDG #: IUB0641
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/10/11
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04 /11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates (Split)	SW	S = 1 + PZ-141_020411_01 (from 280-12250-1)
XV.	Field blanks	SW	FB = FB_011411_19 (from 280-11648-1) * EB_PZ-141_020311 (280-12223-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-141_020411_03	11	104121g_Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 25067A21

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a method blank?

Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed? B

Y N N/A Was the method blank contaminated?

Blank extraction date: 2/10/11 **Blank analysis date:** 2/13/11 **Associated samples:** All Code: F

Conc. units:

Compound	Blank ID	Sample Identification					
	1041219-BLK	1					
A. 2,3,7,8-TCDD	0.57						
B. 1,2,3,7,8-PeCD	2.8						
C. 1,2,3,4,7,8-HxCDD	4.4	1.5/U					
D. 1,2,3,6,7,8-HxCDD	3.9	1.7/U					
E. 1,2,3,7,8,9-HxCDD	3.7	1/U					
F. 1,2,3,4,6,7,8-HpCDD	4.6	2.4/U					
G. OCDD	12	12/U					
H. 2,3,7,8-TCDF	-						
I. 1,2,3,7,8-PeCDF	1.9						
J. 2,3,4,7,8-PeCDF	2	0.98/U					
K. 1,2,3,4,7,8-HxCDF	4.6	1.7/U					
L. 1,2,3,6,7,8-HxCDF	4.6	1.8/U					
M. 2,3,4,6,7,8-HxCDF	3.7	1.7/U					
N. 1,2,3,7,8,9-HxCDF	4.8						
O. 1,2,3,4,6,7,8-HpCDF	5.8	2.4/U					
P. 1,2,3,4,7,8,9-HpCDF	5.2	1.4/U					
Q. OCDF	6.7	4/U					
R. Total TCDD	1.9						
S. Total PeCDD	2.8						
T. Total HxCDD	13	4.2/U					
U. Total HpCDD	6.1	3.7/U					
V. Total TCDF	0.54						
W. Total PeCDF	4.4	0.98/U					
X. Total HxCDF	18	5.2/U					
Y. Total HpCDF	6.1	3.8/U					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 25067A21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JV6
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** pg/L
Sampling date: 1/14/11
Field blank type: (circle one) (Field Blank) / Rinsate / Other: Associated Samples: 1 Code: F

Compound	Blank ID	Sample Identification								
(from 280-11648-1)	FB_011411_19		1							
B	0.70									
C	0.42		1.5/U							
E	0.48		1/U							
F	1.3		2.4/U							
G	2.2		(12)							
I	0.48									
CRQL J	0.40		0.98/U							

Blank units: **Associated sample units:**
Sampling date:
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples:

Compound	Blank ID	Sample Identification								
K	0.50		1.7/U							
M	0.52		1.7/U							
N	0.78									
O	0.78		2.4/U							
P	0.74		1.4/U							
Q	2.0		4/U							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#:25067A21 **VALIDATION FINDINGS WORKSHEET** Page: 1 of 1
Field Splits Reviewer:
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (pg/L)		(≤35%)	Qualifications
	PZ-141_020411_01	PZ-141_020411_03	RPD	(Parent Only)
1,2,3,4,7,8-HxCDD	48U	1.5	188	NQ
1,2,3,6,7,8-HxCDD	48U	1.7	186	NQ
1,2,3,7,8,9-HxCDD	48U	1	192	NQ
1,2,3,4,6,7,8-HpCDD	48U	2.4	181	NQ
OCDD	48U	12	120	NQ
2,3,4,7,8-PeCDF	48U	0.98	192	NQ
1,2,3,4,7,8-HxCDF	48U	1.7	186	NQ
1,2,3,6,7,8-HxCDF	48U	1.8	186	NQ
2,3,4,6,7,8-HxCDF	48U	1.7	186	NQ
1,2,3,4,6,7,8-HpCDF	48U	2.4	181	NQ
1,2,3,4,7,8,9-HpCDF	48U	1.4	189	NQ
OCDF	95U	4	184	NQ
T. Total HxCDD	Not Reported	4.2	~~200~~	NC
U. Total HpCDD	Not Reported	3.7	~~200~~	NC
W. Total PeCDF	Not Reported	0.98	~~200~~	NC
X. Total HxCDF	Not Reported	5.2	~~200~~	NC
Y. Total HpCDF	Not Reported	3.8	~~200~~	NC

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 11, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0641

Sample Identification

PZ-141_020411_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0641	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-141_020411_03 and PZ-141_020411_01 (from SDG 280-12249-1) were identified as split samples. No polychlorinated biphenyls were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG IUB0641

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0641	PZ-141_020411_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG IUB0641

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG IUB0641

No Sample Data Qualified in this SDG

LDC #: 25067A3b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/10/11
SDG #: IUB0641 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: CV

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04 /11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates / Split	ND	S = 1 + PZ-141_020411_01 (from 280-12249-1)
XV.	Field blanks	ND	FB = FB_011411-19 (from 280-11638-1) EB_PZ-141_020311 (280-12216)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-141_020411_03	11	11B0948_Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 17, 2011
Matrix:	Water
Parameters:	Metals
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0641

Sample Identification

PZ-141_020411_03
PZ-141_020411_03F
PZ-141_020411_03FMS
PZ-141_020411_03FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Boron Iron Magnesium	20.0 ug/L 35.8 ug/L 148 ug/L	PZ-141_020411_03
PB (prep blank)	Calcium Iron Magnesium Vanadium	487 ug/L 30.9 ug/L 15.1 ug/L 1.28 ug/L	PZ-141_020411_03F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-141_020411_03F	Iron Vanadium	22 ug/L 2.4 ug/L	22U ug/L 2.4U ug/L

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-141_020311	2/3/11	Silver	0.000015 mg/L	PZ-141_020411_03F

Samples FB_011411_19 and FB_011411_19F (both from SDG 280-11638-1) were identified as field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-141_020411_03F
FB_011411_19F	1/14/11	Calcium Manganese Sodium Silver	0.048 mg/L 0.00030 mg/L 0.097 mg/L 0.000097 mg/L	PZ-141_020411_03

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUB0641	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-141_020411_03F and PZ-141_020411_01 (from SDG 280-12249-1) were identified as split samples. No metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ-141_020411_01	PZ-141_020411_03F			
Aluminum	0.11	0.040U	93 (≤35)	NQ	-
Boron	0.17	0.17	0 (≤35)	-	-
Arsenic	0.0021	0.0011	62 (≤35)	NQ	-
Barium	0.016	0.014	13 (≤35)	-	-
Calcium	130	120	8 (≤35)	-	-
Cobalt	0.00024	0.00036	40 (≤35)	NQ	-
Copper	0.00070	0.0015	73 (≤35)	NQ	-

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ-141_020411_01	PZ-141_020411_03F			
Iron	0.16	0.022	152 (≤35)	NQ	-
Magnesium	73	72	1 (≤35)	-	-
Manganese	0.071	0.056	24 (≤35)	-	-
Molybdenum	0.0065	0.0060	8 (≤35)	-	-
Nickel	0.0019	0.0011	53 (≤35)	NQ	-
Potassium	13	12	8 (≤35)	-	-
Selenium	0.0013	0.0014	7 (≤35)	-	-
Sodium	130	120	8 (≤35)	-	-
Vanadium	0.0022	0.0024	9 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG IUB0641

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUB0641	PZ-141_020411_03 PZ-141_020411_03F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG IUB0641

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
IUB0641	PZ-141_020411_03F	Iron Vanadium	22U ug/L 2.4U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG IUB0641

No Sample Data Qualified in this SDG

LDC #: 25067A4
SDG #: IUB0641
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/16/11
Page: 1 of 1
Reviewer: CR
2nd Reviewer: V

METHOD: Metals (EPA SW 846 Method 6010B/6020/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/4/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	~~Field~~ Split Duplicates	SW	Split = (2, PZ-141_020411_01 (SDG: 280-12249-1))
XV	Field Blanks	SW	FB=FB_011411_19, FB_011411_19F ; EB=EB_PZ-141_020411 (SDG: 280-11638-1) (280-12215-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-141_020411_03	11	PBW	21		31	
2	PZ-141_020411_03F	12	PBWF	22		32	
3	PZ-141_020411_03MS F	13		23		33	
4	PZ-141_020411_03MSD F	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

JC #: 240134

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1, 2		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
3, 4		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,

LDC #: 25067A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: SR
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 1

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
B		20.0		100										
Fe		35.8		179										
Mg		148		740										

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 2

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	2									
Ca		487		2435										
Fe		30.9		154.5	22									
Mg		15.1		75.5										
V		1.28		6.4	2.4									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 25067A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CE
2nd Reviewer: LW

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Sampling date: 2/3/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2

Analyte	Blank ID	Sample Identification										
	EB_PZ-141_020411 (SDG: 280-12215-1)	Action Level	No Qualifiers									
Ag	0.000015	0.000075										

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 2

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 1

Analyte	Blank ID	Sample Identification										
	FB_011411_19 (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.048	0.24										
Mn	0.00030	0.002										
Na	0.097	0.485										
Ag	0.000097	0.00049										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 25067A4

VALIDATION FINDINGS WORKSHEET

Field Duplicates

Page: 1 of 1
Reviewer: VC
2nd Reviewer:

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	PZ-141_020411_01	2		
Aluminum	0.11	0.040U	93	NQ (<5xRL)
Boron	0.17	0.17	0	
Arsenic	0.0021	0.0011	62	NQ (<5xRL)
Barium	0.016	0.014	13	
Calcium	130	120	8	
Cobalt	0.00024	0.00036	40	NQ (<5xRL)
Copper	0.00070	0.0015	73	NQ (<5xRL)
Iron	0.16	0.022	152	NQ (<5xRL)
Magnesium	73	72	1	
Manganese	0.071	0.056	24	
Molybdenum	0.0065	0.0060	8	
Nickel	0.0019	0.0011	53	NQ (<5xRL)
Potassium	13	12	8	
Selenium	0.0013	0.0014	7	
Sodium	130	120	8	
Vanadium	0.0022	0.0024	9	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 4, 2011

LDC Report Date: March 16, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUB0641

Sample Identification

PZ-141_020411_03A
PZ-141_020411_03AMS
PZ-141_020411_03AMSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
PZ-141_020411_03A PZ-141_020411_03AMS	Hexavalent chromium	72.75 hours	24 hours	J (all detects) R (all non-detects)	P
PZ-141_020411_03AMSD	Dissolved hexavalent chromium	72.75 hours	24 hours	J (all detects) R (all non-detects)	

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No contaminant concentrations were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUB0641	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples PZ-141_020411_03A and PZ-141_020411_01A (from SDG 280-12426-1) were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-141_020411_03A	PZ-141_020411_01A			
Hexavalent chromium	0.0060	0.0050U	18 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG IUB0641

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUB0641	PZ-141_020411_03A	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	P	Technical holding time (H)
IUB0641	PZ-141_020411_03A	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IUB0641

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG IUB0641

No Sample Data Qualified in this SDG

LDC #: 25067A6
SDG #: IUB0641
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/16/11
Page: 1 of 1
Reviewer: CR
2nd Reviewer:

SW846

METHOD: Hexavalent Chromium & Dissolved Hexavalent Chromium (Method 7196A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 2/4/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Spike Field duplicates	SW	(1, PZ-141-020411_01A (SDG: 280-12249-1))
X	Field blanks	ND	FB=FB_011411_19 ; EB= EB_PZ-141_020911 (SDG: 280-11638-1) (280-12215-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-141_020411_03A	11		21		31	
2	PZ-141_020411_03AMS	12		22		32	
3	PZ-141_020411_03AMSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25067A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: CR
2nd reviewer:

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:	7196A					
Parameters:	Cr6+ & Diss. Cr6+					
Technical holding time:	24hrs					

Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
~~1-3~~ 1-3	2/4/11 11:45	2/7/11 12:32	(72.75hrs)				J/R/P (H)

LDC# 25067A6

VALIDATION FINDINGS WORKSHEET
Split Duplicates

Reviewer: QC
2nd Reviewer: QC

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	PZ-141_020411_01A	1		
Hexavalent Chromium	0.0060	0.0050U	18	

V:\FIELD DUPLICATES\FD_inorganic\25037A6.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 11, 2011
Matrix:	Water
Parameters:	Extractable Fuel Hydrocarbons
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0641

Sample Identification

PZ-141_020411_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 8015M for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No diesel range organic contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0641	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples PZ-141_020411_03 and PZ-141_020411_01 (from SDG 280-12249-1) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-141_020411_01	PZ-141_020411_03			
Extractable Fuel Hydrocarbons (C12-C14)	0.074	0.29	119 (≤35)	NQ	-
Extractable Fuel Hydrocarbons (C21-C30)	0.032	0.24U	153 (≤35)	NQ	-
Extractable Fuel Hydrocarbons (C8-C30)	0.11	0.46	123 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Extractable Fuel Hydrocarbons - Data Qualification Summary - SDG IUB0641

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0641	PZ-141_020411_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Extractable Fuel Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG IUB0641

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Extractable Fuel Hydrocarbons - Field Blank Data Qualification Summary - SDG IUB0641

No Sample Data Qualified in this SDG

LDC#:25067A8

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: Me
2nd Reviewer: ____

METHOD: GC Extractable Fuel HC (EPA SW 846 Method 8015M)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (mg/L)		(≤35%) RPD	Qualifications (Parent Only)
	PZ-141_020411_01	PZ-141_020411_03		
EFH (C12-C14)	0.074	0.29	119	NQ
EFH (C21-C30)	0.032	0.24U	153	NQ
EFH (C8-C30)	0.11	0.46	123	NQ

V:\FIELD DUPLICATES\25067A8.wpd

LDC #: 25067A8 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/10/11
SDG #: IUB0641 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JV6
2nd Reviewer:

METHOD: GC Extractable Fuel Hydrocarbons (EPA Method 8015M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04 /11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates / Split	SW	S = 1 + PZ-141_020411_01 (from 280-12249-1)
X.	Field blanks	ND	FB = FB_011411_19 (from 280-11638-1) EB = EB_PZ-141_020311 (from 280-12215-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-141_020411_03	11	11B1455-Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 10, 2011

LDC Report Date: March 21, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUB1285

Sample Identification

HAR-30_021011_03
HAR-30_021011_03MS
HAR-30_021011_03MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 9014 for Cyanide and Standard Method 4500-SC,D for Sulfide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Cyanide	0.00250 mg/L	All samples in SDG IUB1285
ICB/CCB	Cyanide	0.00254 mg/L	All samples in SDG IUB1285

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample FB_HAR-30_021011_19 (from SDG 280-12426-1) was identified as a field blank. No contaminant concentrations were found in this blank.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-30_021011_03MS/MSD (All samples in SDG IUB1285)	Sulfide	68 (70-130)	-	-	J (all detects) UJ (all non-detects)	A

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUB1285	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples HAR-30_021011_03 and HAR-30_021011_01 (from SDG 280-12426-1) were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	HAR-30_021011_03	HAR-30_021011_01			
Cyanide	0.0030	0.0022U	31 (≤35)	-	-
Sulfide	0.39	0.42	7 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG IUB1285

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUB1285	HAR-30_021011_03	Sulfide	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
IUB1285	HAR-30_021011_03	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IUB1285

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG IUB1285

No Sample Data Qualified in this SDG

LDC #: 25067B6
SDG #: IUA1285
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level ~~IV~~ V

Date: 3/16/11
Page: 1 of 1
Reviewer: OR
2nd Reviewer:

METHOD: Cyanide (~~Method~~ SW846 9014), Sulfide (SM4500) -SC,D

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/10/11
IIa.	Initial calibration	AN	
IIb.	Calibration verification	AN	
III.	Blanks	~~A~~ SW	
IV	Matrix Spike/Matrix Spike Duplicates	~~A~~ SW	MS/D
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS
VII.	Sample result verification	AN	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	Split = (1, HAR-30_021011_01 (SDG: 280-12426-1))
X	Field blanks	ND	FB = FB_HAR-30_021011_19 (SDG: 280-12426-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	HAR-30_021011_03	11		21		31	
2	HAR-30_021011_03MS	12		22		32	
3	HAR-30_021011_03MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25067136

VALIDATION FINDINGS CHECKLIST

Reviewer: CC
2nd Reviewer: V

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients > 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	~~SS~~	✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?		✓		
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.		✓		

LDC #: 25067B6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: AV

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (CN) (Sulfide)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC: 2		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK (CN) NH_3 TKN TOC CR^{6+} ClO_4 (Sulfide)
3		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK (CN) NH_3 TKN TOC CR^{6+} ClO_4 (Sulfide)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 25067B6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples:** All

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		No Qualifiers (ND)									
CN	0.00250	0.00254											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 25007B6

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: CK
2nd Reviewer:

METHOD: Inorganics, EPA Method see cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of ~~75-125?~~ 70-130 If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	23	W	Sulfide	68			All	J/UJ/A (Q)

Comments:

LDC# 25067B6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: R
2nd Reviewer: W

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	HAR-30_021011_01	1		
Cyanide	0.0030	0.0022U	31	
Sulfide	0.39	0.42	7	

V:\FIELD DUPLICATES\FD_inorganic\25067B6.wpd

LDC #: 25067B6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: QR
2nd Reviewer: [illegible]

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of Sulfide was recalculated. Calibration date: 2/11/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100 / True

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Sulfide	s1	0	0	*0.99897*	0.99890	Y
		s2	0.05	0.024			
		s3	0.1	0.049			
		s4	0.3	0.143			
		s5	0.5	0.235			
		s6	0.8	0.346			
		s7	1	0.431			
Calibration verification	CN	ICV	0.1	0.09374	94	—	
Calibration verification	CN	CCV	0.2	0.18202	90	—	
Calibration verification	Sulfide	↓	0.3	0.30274	101	—	↓

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25067B6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: QR
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units) mg/L	True / D (units) mg/L	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	CN	0.198	0.2	99	99	Y
2	Matrix spike sample	Sulfide	(SSR-SR) 0.341	0.5	68	68	
2/3	Duplicate sample	CN	0.186	0.185	0.5	0.08	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25067B6

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer: V

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Sulfide reported with a positive detect were recalculated and verified using the following equation:

Concentration =

$y = 0.429599x + 0.0066643226$

Recalculation:

$$\frac{(0.186 - 0.0066643226)}{0.429599} = 0.42 \text{ mg/L}$$

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	1	Sulfide	0.42	0.42	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 2, 2011

LDC Report Date: March 11, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12173-1

Sample Identification

RD-66_020211_01
TB_RD-66_020211
RD-38B_020211_01
RD-38B_020211_36
RD-43A_020211_01
TB_RD-43A_020211
RD-43C_020211_01
RD-77_020211_01
TB_RD-77_020211

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-66_020211, TB_RD-43A_020211, TB_RD-77_020211 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-77_020211	1/14/11	Methylene chloride	0.82 ug/L	RD-77_020211_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-77_020211_01	Methylene chloride	0.69 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
MB 280-52621/4	Bromofluorobenzene	85 (86-115)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-38B_020211_01 and RD-38B_020211_36 were identified as field duplicates. No volatiles were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1	RD-66_020211_01 TB_RD-66_020211 RD-38B_020211_01 RD-38B_020211_36 RD-43A_020211_01 TB_RD-43A_020211 RD-43C_020211_01 RD-77_020211_01 TB_RD-77_020211	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12173-1	RD-77_020211_01	Methylene chloride	10U ug/L	A	T

LDC #: 25067C1a **VALIDATION COMPLETENESS WORKSHEET** Date: 2/10/11
SDG #: 280-12173-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: Q

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 3, 4
XVII.	Field blanks	SW	TB = 2*, 6*, 9

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-66_020211_01	11	MB 280-52621/4	21		31	
2	TB_RD-66_020211	12	MB 280-52826/6	22		32	
3	RD-38B_020211_01 D	13	MB 280-53081/6	23	CRAR S	33	
4	RD-38B_020211_36 D	14		24		34	
5	RD-43A_020211_01	15		25		35	
6	TB_RD-43A_020211	16		26		36	
7	RD-43C_020211_01	17		27		37	
8	RD-77_020211_01	18		28		38	
9	TB_RD-77_020211	19		29		39	
10		20		30		40	

VOCs = 1
VOCs + IPA = 2

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 25067C1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JV6
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 8 Code: T

Compound	Blank ID 9	Blank ID	Sample Identification							
Sampling Date	2/02/14		8							
Methylene chloride E	0.82		0.69/10U							
Acetone										
Chloroform										
CRQL										

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples:

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 25067 C1a

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		MB 280-526 21/4	BFB	85 (86-115)	J/MJ/P (S)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
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				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 2, 2011

LDC Report Date: March 11, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12173-1

Sample Identification

RD-66_020211_01
TB_RD-66_020211
RD-38B_020211_01
RD-38B_020211_36
RD-43A_020211_01
TB_RD-43A_020211
RD-43C_020211_01
RD-77_020211_01
TB_RD-77_020211

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_RD-66_020211, TB_RD-43A_020211, and TB_RD-77_020211 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-38B_020211_01 and RD-38B_020211_36 were identified as field duplicates. No 1,4-Dioxane was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1	RD-66_020211_01 TB_RD-66_020211 RD-38B_020211_01 RD-38B_020211_36 RD-43A_020211_01 TB_RD-43A_020211 RD-43C_020211_01 RD-77_020211_01 TB_RD-77_020211	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

LDC #: 25067C1b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/6/11
SDG #: 280-12173-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: VC
2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 3, 4
XVII.	Field blanks	ND	TB = 1, 6, 9

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-66_020211_01	11	MB 280-53117/6	21		31	
2	TB_RD-66_020211	12	MB 280-53277/11	22		32	
3	RD-38B_020211_01 D	13		23		33	
4	RD-38B_020211_36 D	14		24		34	
5	RD-43A_020211_01	15		25		35	
6	TB_RD-43A_020211	16		26		36	
7	RD-43C_020211_01	17		27		37	
8	RD-77_020211_01	18		28		38	
9	TB_RD-77_020211	19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 2, 2011

LDC Report Date: March 15, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V & IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12173-1/IUB0589

Sample Identification

RD-66_020211_01
RD-38B_020211_01
RD-38B_020211_36
RD-43A_020211_01
TB_RD-43A_020211
RD-43C_020211_01
SH-03_020211_01**
SH-03_020211_36**
EB_SH-03_020211**
FB_SH-03_020211_19**
TB_SH-03_020211
RD-66_020211_01DUP

**Indicates sample underwent Level IV review

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Samples indicated by a double asterisk on the front cover underwent a Level IV review. A Level V review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level V criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 30.0% for all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 30.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria with the following exceptions:

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Samples TB_RD-43A_020211 and TB_SH-03_020211 were identified as trip blanka. No 1,2,3-Trichloropropane was found in these blanks.

Sample EB_SH-03_020211** was identified as an equipment blank. No 1,2,3-Trichloropropane was found in this blank.

Samples FB_SH-03_020211_19** and FB_011411_19 (from SDG 280-11638-1) were identified as field blanks. No 1,2,3-Trichloropropane was found in these blanks.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits for samples on which a Level IV review was performed. Internal standards were not evaluated for the samples reviewed by Level V criteria.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a Level IV review was performed.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1/IUB0589	All compounds reported below the RL.	J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level V criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-38B_020211_01 and RD-38B_020211_36 and samples SH-03_020211_01** and SH-03_020211_36** were identified as field duplicates. No 1,2,3-Trichloropropane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-03_020211_01**	SH-03_020211_36**			
1,2,3-Trichloropropane	0.0086	0.0086	0 (≤35)	-	-

Samples SH-03_020211_01** and SH-03_020211_03 (from SDG IUB0492) were identified as split samples. No 1,2,3-Trichloropropane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-03_020211_01**	SH-03_020211_03			
1,2,3-Trichloropropane	0.0086	0.010	15 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-12173-1/IUB0589

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1/IUB0589	RD-66_020211_01 RD-38B_020211_01 RD-38B_020211_36 RD-43A_020211_01 TB_RD-43A_020211 RD-43C_020211_01 SH-03_020211_01** SH-03_020211_36** EB_SH-03_020211** FB_SH-03_020211_19** TB_SH-03_020211	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-12173-1/IUB0589

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-12173-1/IUB0589

No Sample Data Qualified in this SDG

LDC #: 25067C1c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/09/11
SDG #: 280-12173-1/IUB0589 Level V/IV Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JV6
2nd Reviewer: Q

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%RSD ≤ 20%
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 30%
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	*D1=2, 3 D2=7, 8 S=7+SH-03_020211_03 (from IUB0492)
XVII.	Field blanks	ND	TB=5, 11 EB=9 FB=10 + FB_011411-09 from 280-11638-1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ** Level IV

Water

1	RD-66_020211_01	11	TB_SH-03_020211	21	11B0774-BLK1	31	
2	RD-38B_020211_01 D1	12	RD-66_020211_01DUP	22	✓ 11B0842- ↓	32	
3	RD-38B_020211_36 D1	13		23		33	
4	RD-43A_020211_01	14		24		34	
5	TB_RD-43A_020211	15		25		35	
6	RD-43C_020211_01	16		26		36	
7	SH-03_020211_01 ** D2	17		27		37	
8	SH-03_020211_36 ** D2	18		28		38	
9	EB_SH-03_020211 **	19		29		39	
10	FB_SH-03_020211_19 **	20		30		40	

LDC #: 25067C1C
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: [illegible]

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) < 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) < 30%?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?			✓	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			

LDC #: 25067C1c
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within +/-40% from the associated calibration standard?	✓			
Were retention times within - 30% of the last continuing calibration or +/- 50% of the initial calibration?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 25 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC#:25067C1c

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: SW
2nd Reviewer: [signature]

METHOD: GC MS 1,2,3-Trichloropropane (EPA Method 524.2)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	SH-03_020211_01	SH-03_020211_36		
1,2,3-Trichloropropane	0.0086	0.0086	0	-

V:\FIELD DUPLICATES\25067C1c.wpd

LDC#:25067C1c

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: SM
2nd Reviewer:

METHOD: GC MS 1,2,3-Trichloropropane (EPA Method 524.2)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	SH-03_020211_01	SH-03_020211_03		
1,2,3-Trichloropropane	0.0086	0.010	15	-

V:\FIELD DUPLICATES\25067C1c(FS).wpd

LDC #: 25067 C1c

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS 1,2,3-Trichlopropane (EPA Method 524.2)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL GCMS 74	1/31/2011 -	1,2,3-TCP (1,2,3-TCP-d5)	1.04787	1.04787	1.08688	1.08688	5.75	5.75

Conc IS/Cpd	Area cpd	Area IS
50/50	24978	23837

Conc (ng/L)	1,2,3-TCP
5	1.06938
10	1.04525
20	1.05270
50	1.04787
100	1.03928
200	1.18738
500	1.16630
X =	1.08688
S =	0.062

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25067 C1C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS 1,2,3-Trichlopropane (EPA Method 524.2)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound,
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial)	Reported RRF (CCV)	Recalculated RRF (CCV)	Reported % D	Recalculated %D
1	VSTD050	2/7/2011	1,2,3-TCP (1,2,3-TCP-d5)	1.08688	1.08348	1.08348	0.3	0.3
	GCMS 74							

Cis/Cx	Ax	Ais
50/50	26801	24736

LDC #: 25067C1C
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: Q

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 11B0774 - BS1

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,2,3-TCP	0.005	NA	0.00493	NA	99	99				
~~1,1-Dichloroethene~~										
Trichloroethene										
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25067C1C
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: ON
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #7, 1,2,3-TCP

Conc. = $\frac{(4277)(50)(\quad)(\quad)}{(02795)(1.08688)(\quad)(\quad)}$

= $\frac{8.63 \text{ ng/L}}{1000}$

= 0.0086 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 2, 2011
LDC Report Date:	March 11, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12173-1

Sample Identification

RD-38B_020211_01
RD-38B_020211_36
RD-43A_020211_01
RD-43C_020211_01
RD-77_020211_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-38B_020211_01 and RD-38B_020211_36 were identified as field duplicates. No semivolatiles were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1	RD-38B_020211_01 RD-38B_020211_36 RD-43A_020211_01 RD-43C_020211_01 RD-77_020211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

LDC #: 25067C2a **VALIDATION COMPLETENESS WORKSHEET** Date: 3/10/11
SDG #: 280-12173-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: M
2nd Reviewer: Q

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 1, 2
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1 RD-38B_020211_01 D	11	MB 280-57966/1-A	21		31		
2 RD-38B_020211_36 D	12		22		32		
3 RD-43A_020211_01	13		23		33		
4 RD-43C_020211_01	14		24		34		
5 RD-77_020211_01	15		25		35		
6	16		26		36		
7	17		27		37		
8	18		28		38		
9	19		29		39		
10	20		30		40		

Phthalates + NB = All

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 2, 2011

LDC Report Date: March 11, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12173-1

Sample Identification

RD-66_020211_01
RD-38B_020211_01
RD-38B_020211_36
RD-43A_020211_01
RD-43C_020211_01
RD-77_020211_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-38B_020211_01	N-Nitrosodimethylamine-d6	5 (18-142)	All TCL compounds	J (all detects) R (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-38B_020211_01 and RD-38B_020211_36 were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flags	A or P
	RD-38B_020211_01	RD-38B_020211_36				
N-Nitrosodimethylamine	0.0054	0.0050U	8 (≤35)	-	-	-

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1	RD-38B_020211_01	N-Nitrosodimethylamine	J (all detects) R (all non-detects)	P	Surrogate spikes (%R) (S)
280-12173-1	RD-66_020211_01 RD-38B_020211_01 RD-38B_020211_36 RD-43A_020211_01 RD-43C_020211_01 RD-77_020211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

LDC #: 25067C2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/10/11
SDG #: 280-12173-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVC
2nd Reviewer: [signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	client spec.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards		
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 2, 3
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-66_020211_01	11	MB280-52217/1-A	21		31	
2	RD-38B_020211_01	12		22		32	
3	RD-38B_020211_36	13		23		33	
4	RD-43A_020211_01	14		24		34	
5	RD-43C_020211_01	15		25		35	
6	RD-77_020211_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25067C26

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Reviewer: JV6
2nd Reviewer: [illegible]

METHOD: GC/MS ~~BNA~~ (EPA ~~SW-846~~ Method ~~8270C~~) NDMA 1625

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N (N/A) If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N (N/A) If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Date	Sample ID	Surrogate	%R (Limits)	Qualifications
		2	N-Nitrosodimethylamine-d6	5 (18-14x)	J / R / P (S)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

* QC limits are advisory

	QC Limits (Soil)	QC Limits (Water)
S1 (NBZ) = Nitrobenzene-d5	23-120	35-114
S2 (FBP) = 2-Fluorobiphenyl	30-115	43-116
S3 (TPH) = Terphenyl-d14	18-137	33-141
S4 (PHL) = Phenol-d5	24-113	10-94
S5 (2FP)= 2-Fluorophenol	25-121	21-100
S6 (TBP) = 2,4,6-Tribromophenol	19-122	10-123
S7 (2CP) = 2-Chlorophenol-d4	20-130*	33-110*
S8 (DCB) = 1,2-Dichlorobenzene-d4	20-130*	16-110*

LDC#:25067C2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: DVG
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	RD-38B_020211_01	RD-38B_020211_36		
NDMA	0.0054	0.0050U	8	

V:\FIELD DUPLICATES\25067C2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 2, 2011

LDC Report Date: March 16, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12173-1

Sample Identification

SH-03_020211_01
SH-03_020211_36
FB_SH-03_020211_19

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample FB_SH-03_020211_19 was identified as a field blank. No chlorinated pesticide contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-51877/2,3A (All samples in SDG 280-12173-1)	4,4'-DDT	-	-	33 (≤25)	J (all detects) UJ (all non-detects)	P
	delta-BHC	-	73 (75-124)	-		
	Dieldrin	-	-	31 (≤22)		
	gamma-BHC	-	-	29 (≤26)		
	Heptachlor	-	-	33 (≤27)		

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1	All compounds reported below the RL.	J (all detects)	A

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples SH-03_020211_01 and SH-03_020211_36 were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

Samples SH-03_020211_01 and SH-03_020211_03 (from SDG IUB0492) were identified as split samples. No chlorinated pesticides were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1	SH-03_020211_01 SH-03_020211_36 FB_SH-03_020211_19	delta-BHC	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (L)
280-12173-1	SH-03_020211_01 SH-03_020211_36 FB_SH-03_020211_19	4,4'-DDT delta-BHC gamma-BHC Heptachlor	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (E)
280-12173-1	SH-03_020211_01 SH-03_020211_36 FB_SH-03_020211_19	All compounds reported below the RL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

LDC #: 25067C3a

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 3/10/11

SDG #: 280-12173-1

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: JV

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	%RSD ≤ 20% r^2
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 20%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	SW	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	
XII.	Compound quantitation and reported CRQLs	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates /Split	ND	D = 1, 2 S = 1 + SH-03_020211_03 (from 1NB0492)
XV.	Field blanks	ND	FB = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	SH-03_020211_01 D	11	MB 280-51877/1-A	21		31	
2	SH-03_020211_36 D	12		22		32	
3	FB_SH-03_020211_19	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(EB = not analyzed. broken)

LDC #: 25067 C3a

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: JVG
2nd Reviewer: Q

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	-			
Did the initial calibration meet the curve fit acceptance criteria?				
Were the RT windows properly established?				
Were the required standard concentrations analyzed in the initial calibration?				
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ____ %R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recovieries 80-120%?				
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	✓			
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	NA		✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.		✓		
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Arochlor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Arochlor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK. oxy Chlordane
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL. trans-Nonachlor
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM. cis-Nonachlor
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes: _____

LDC #: 25067 (3a

SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples

Page: 1 of 1

Reviewer: SVG

2nd Reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) analyzed for each matrix in this SDG?

Y (N) N/A Were the LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits?

Level IV/D Only

(Y) N N/A Was a LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS/D 280-51877/2,3-A	D	( )	( )	33 (25)	All	J/UJ/P (E)
			C	( )	73 (75-124)	( )		(L)
			I	( )	( )	31 (22)		(E)
			D	( )	( )	29 (26)		
			E	( )	( )	33 (27)		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#: 25067 C2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JK
2nd Reviewer: [illegible]

Method: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X2) Response	CF
1/13/2011	GCS C	g-BHC	1	4.0	224303	50311835809	56075.8
			2	10.0	538961	290478959521	53896.1
	RTI-XLB		3	25.0	1254430	1573594624900	50177.2
			4	50.0	2308620	5329726304400	46172.4
			5	75.0	3369465	11353294386225	44926.2
			6	100.0	4262979	18172989954441	42629.8
						Ave	48979.6

Regression Output	*Calculated*		*Reported*	
Constant	b =	-0.5050	b =	*-0.5050172*
Std Err of Y Est				
Coefficient of Determination (r^2)	r^ 2	0.9998334	r^ 2	*0.9998*
Degrees of Freedom				
	m1 =	m2 =	m1 =	m2 =
X Coefficient(s)	1.92618E-05	9.97605E-13	*1.92618E-05*	*9.97605E-13*
Std Err of Coef.				
Correlation Coefficient		0.999917		

LDC#: 25067C3a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVC
2nd Reviewer:

Method: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X2) Response	CF
1/13/2011	GCS C	4,4'_DDT	1	4.0	166389	27685299321	41597.3
			2	10.0	412142	169861028164	41214.2
	RTI-XLB		3	25.0	978327	957123718929	39133.1
			4	50.0	1845152	3404585903104	36903.0
			5	75.0	2667605	7116116436025	35568.1
			6	100.0	3389607	11489435614449	33896.1
						Ave	38052.0

Regression Output	*Calculated*		*Reported*	
Constant	b =	-0.0530	b =	*-0.0530479*
Std Err of Y Est				
Coefficient of Determination (r^2)	r^ 2	0.9999560	r^ 2	*1.0000*
Degrees of Freedom				
	m1 =	m2 =	m1 =	m2 =
X Coefficient(s)	2.39797E-05	1.61837E-12	*2.39797E-05*	*1.61837E-12*
Std Err of Coef.				
Correlation Coefficient		0.999978		

LDC#: 25067 C3C

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SVC
2nd Reviewer: [illegible]

Method: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Response	(X) Concentration	CF
1/13/2011	GCS_C	g-BHC	1	271951	4	67988
			2	655609	10	65561
	RTI-35silms		3	1589088	25	63564
			4	3043683	50	60874
			5	4629153	75	61722
			6	5937846	100	59378
					Ave	63181

Regression Output	*Calculated*	*Reported*
Constant	*-1.189342*	*-0.505716*
Std Err of Y Est		
R Squared	*0.999280*	*0.999300*
Degrees of Freedom		
X Coefficient(s)	*59437.7654*	*60978.0455*
Std Err of Coef.		
Correlation Coefficient	*0.999640*	
Coefficient of Determination (r^2)	*0.999280*	*0.999300*

LDC#: 25067 C2/6

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: 2V6
2nd Reviewer: CV

Method: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X2) Response	CF
1/13/2011	GCS C	4,4'_DDT	1	4.0	188173	35409077929	47043.3
			2	10.0	455637	207605075769	45563.7
	RTI-35silms		3	25.0	1061947	1127731430809	42477.9
			4	50.0	2039764	4160637175696	40795.3
			5	75.0	3034057	9205501879249	40454.1
			6	100.0	3921685	15379613239225	39216.9
						Ave	42591.8

Regression Output	*Calculated*		*Reported*	
Constant	b =	-0.5366	b =	*-0.536597*
Std Err of Y Est				
Coefficient of Determination (r^2)	r^ 2	0.9999037	r^ 2	*0.9999*
Degrees of Freedom				
	m1 =	m2 =	m1 =	m2 =
X Coefficient(s)	2.34280E-05	5.48227E-13	*2.34280E-05*	*5.48227E-13*
Std Err of Coef.				
Correlation Coefficient		0.999952		

LDC # 25067 C24

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer:

METHOD: GC / HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = 100 * (N - C)/N

Where: N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	CCV Conc	Reported Conc	Recalculated Conc	Reported % D	Recalculated %D
1	0005F0501	2/11/2011	g-BHC RTI-XLB	50	47.1	47.1	5.7	5.7
			4,4'-DDT RTI-XLB	50	49.0	49.0	2.1	2.1
			g-BHC RTI-35sil	50	48.4	49.8	0.4	0.4
			4,4'-DDT RTI-35sil	50	51.4	51.4	2.7	2.7

Y = m2(X^2) + m1 X + b
(Where Y= conc X= Response)

CCV1		Area X	X^2	b	m1	m2	Conc.
g-BHC	RTI-XLB	2218270	4.92072E+12	-0.50502	1.9262E-05	9.9761E-13	47.13
4,4'-DDT	RTI-XLB	1820291	3.31346E+12	-0.05305	2.3980E-05	1.6184E-12	48.96
4,4'-DDT	RTI-35sil	2111414	4.45807E+12	-0.53660	2.3428E-05	5.4823E-13	51.37

Conc= Response(m) + b

CCV1		Response	m	b	Conc
g-BHC	RTI-35sil	3067265	60978.0455	-0.505716	49.80

LDC #: 25067 C39

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JWG
2nd reviewer: [signature]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTI - XLB	20	16.03	80	80	0
Tetrachloro-m-xylene	-35si	↓	18.23	91	91	↓
Decachlorobiphenyl	- XLB		15.67	78	78	
Decachlorobiphenyl	-35si	↓	16.84	84	84	↓

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 25167 C3a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: OV6
2nd Reviewer: Q

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD) LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS/D 280-51877/2,3-A

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC	0.500	0.500	0.471	0.357	94	94	70	70	29	29
4,4'-DDT	↓	↓	0.485	0.347	97	97	69	69	33	33
Aroclor 1260										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25067 C3c

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVC
2nd reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. _____ MB

Conc. = _____

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 2, 2011

LDC Report Date: March 16, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12173-1

Sample Identification

RD-77_020211_01
RD-77_020211_01F
RD-77_020211_01MS
RD-77_020211_01MSD
RD-77_020211_01FMS
RD-77_020211_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6010B for Metals. The metals analyzed were Calcium, Iron, Magnesium, Manganese, Potassium, Sodium, Strontium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Calcium Iron	0.0429 mg/L 0.0541 mg/L	RD-77_020211_01F
PB (prep blank)	Calcium Iron Magnesium Manganese Strontium Zinc	0.155 mg/L 0.0330 mg/L 0.0674 mg/L 0.000860 mg/L 0.216 mg/L 0.000740 mg/L	RD-77_020211_01

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-77_020211_01	Iron Strontium	0.072 mg/L 0.31 mg/L	0.072U mg/L 0.31U mg/L

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12173-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12173-1	RD-77_020211_01 RD-77_020211_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12173-1	RD-77_020211_01	Iron Strontium	0.072U mg/L 0.31U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

LDC #: 25067C4 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/16/11
SDG #: 280-12173-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method 6010B/~~6020/7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/2/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-77_020211_01	11		21		31	
2	RD-77_020211_01F	12		22		32	
3	RD-77_020211_01MS	13		23		33	
4	RD-77_020211_01MSD	14		24		34	
5	RD-77_020211_01FMS	15		25		35	
6	RD-77_020211_01FMSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

DC #: 220154

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

ll circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1, 2		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SO)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
3-6		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SO)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

LDC #: 25067C4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 2

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	2 NoQual									
Ca		0.0429		0.2145										
Fe		0.0541		0.2705	~~0.072~~									

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1									
Ca		0.155		0.775										
Fe		0.0330		0.165	0.072									
Mg		0.0674		0.337										
Mn		0.000860		0.0043	~~0.0028~~									
Sr		0.216		1.08	~~0.30~~ 0.31									
Zn		0.000740		0.0037										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 2, 2011

LDC Report Date: March 16, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12173-1

Sample Identification

PZ-074_020211_01
EB_PZ-074_020211
RD-66_020211_01
RD-38B_020211_01
RD-38B_020211_36
RD-43A_020211_01
RD-43C_020211_01
RD-77_020211_01
RD-77_020211_01A
PZ-074_020211_01MS
PZ-074_020211_01MSD
PZ-074_020211_01DUP
RD-77_020211_01MS
RD-77_020211_01MSD
RD-77_020211_01ADUP

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, and Sulfate, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 2510B for Specific Conductance, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Sample EB_PZ-074_020211 was identified as an equipment blank. No contaminant concentrations were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12173-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-38B_020211_01 and RD-38B_020211_36 were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RD-38B_020211_01	RD-38B_020211_36			
Fluoride	0.28	0.28	0 (≤35)	-	-
Cyanide	0.084	0.064	27 (≤35)	-	-
Sulfide	7.90	7.28	8 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12173-1	PZ-074_020211_01 EB_PZ-074_020211 RD-66_020211_01 RD-38B_020211_01 RD-38B_020211_36 RD-43A_020211_01 RD-43C_020211_01 RD-77_020211_01 RD-77_020211_01A	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

LDC #: 25067C6 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/16/11
SDG #: 280-12173-1 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: CR
2nd Reviewer:

METHOD: (Analyte) Alkalinity (Standard Method 2320B), Ammonia-N (EPA Method 350.2), Bromide, Chloride, Fluoride, Nitrate-N, ~~Nitrite-N, Orthophosphate~~, Sulfate (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Specific Conductance (Standard Method 2510B), Total Dissolved Solids (Standard Method 2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/2/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/P
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(4,5)
X	Field blanks	ND	FB= FB_011411-19 ; EB = 2 (280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-074_020211_01	11	PZ-074_020211_01MSD	21		31	
2	EB_PZ-074_020211	12	PZ-074_020211_01DUP	22		32	
3	RD-66_020211_01	13	RD-77_020211_01MS	23		33	
4	RD-38B_020211_01	14	RD-77_020211_01MSD	24		34	
5	RD-38B_020211_36	~~15~~	~~RD-77_020211_01DUP~~	25		35	
6	RD-43A_020211_01	16	RD-77_020211_01ADUP	26		36	
7	RD-43C_020211_01	17		27		37	
8	RD-77_020211_01	18		28		38	
9	RD-77_020211_01A	19		29		39	
10	PZ-074_020211_01MS	20		30		40	

Notes:

LDC #: 25067C6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: AR
2nd reviewer: ~

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,2,3		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO4)
4,5-7		(pH) TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO4)
8		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO4
9		(pH TDS) (Cl F NO_3) NO_2 (SO_4) PO_4 (ALK) CN^- NH_3 TKN TOC CR^{6+} (ClO4) Cond Turb
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
10		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO4)
11		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO4)
12		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO4)
13		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH3) TKN TOC CR^{6+} ClO4
14		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH3) TKN TOC CR^{6+} ClO4
FS		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
LCS		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4 Turb Cond
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO4

Comments:

LDC# 25067C6

VALIDATION FINDINGS WORKSHEET
Split Duplicates

Page: 1 of 1
Reviewer: AL
2nd Reviewer: [illegible]

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	4	5		
Fluoride	0.28	0.28	0	
NH3-N	0.084	0.064	27	
pH (no units)	7.90	7.28	8	

V:\FIELD DUPLICATES\FD_inorganic\25067C6.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 2, 2011
LDC Report Date:	March 11, 2011
Matrix:	Water
Parameters:	Gasoline Range Organics
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12173-1

Sample Identification

RD-38B_020211_01
RD-38B_020211_36
TB RD-38B_020211
TB_PZ-144_020111

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Gasoline Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No gasoline range organic contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-52242/5	2/7/11	Gasoline Range Organics (C6-C12)	7.16 ug/L	RD-38B_020211_01 RD-38B_020211_36
MB 280-52768/6	2/8/11	Gasoline Range Organics (C6-C12)	9.39 ug/L	TB RD-38B_020211 TB_PZ-144_020111

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-38B_020211_01	Gasoline Range Organics (C6-C12)	6.2 ug/L	100U ug/L
RD-38B_020211_36	Gasoline Range Organics (C6-C12)	11 ug/L	100U ug/L
TB RD-38B_020211	Gasoline Range Organics (C6-C12)	8.8 ug/L	100U ug/L
TB_PZ-144_020111	Gasoline Range Organics (C6-C12)	11 ug/L	100U ug/L

Samples TB RD-38B_020211 and TB_PZ-144_020111 were identified as trip blanks. No gasoline range organic contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB RD-38B_020211	2/2/11	Gasoline Range Organics (C6-C12)	8.8 ug/L	RD-38B_020211_01 RD-38B_020211_36
TB_PZ-144_020111	2/2/11	Gasoline Range Organics (C6-C12)	11 ug/L	No associated samples in this SDG

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-38B_020211_01	Gasoline Range Organics (C6-C12)	6.2 ug/L	100U ug/L
RD-38B_020211_36	Gasoline Range Organics (C6-C12)	11 ug/L	100U ug/L

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples RD-38B_020211_01 and RD-38B_020211_36 were identified as field duplicates. No diesel range organics were detected in any of the samples.

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	RD-38B_020211_01	RD-38B_020211_36			
Gasoline Range Organics (C6-C12)	6.2	11	56 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1	RD-38B_020211_01 RD-38B_020211_36 TB RD-38B_020211 TB_PZ-144_020111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12173-1	RD-38B_020211_01	Gasoline Range Organics (C6-C12)	100U ug/L	A	B
280-12173-1	RD-38B_020211_36	Gasoline Range Organics (C6-C12)	100U ug/L	A	B
280-12173-1	TB RD-38B_020211	Gasoline Range Organics (C6-C12)	100U ug/L	A	B
280-12173-1	TB_PZ-144_020111	Gasoline Range Organics (C6-C12)	100U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12173-1	RD-38B_020211_01	Gasoline Range Organics (C6-C12)	100U ug/L	A	T
280-12173-1	RD-38B_020211_36	Gasoline Range Organics (C6-C12)	100U ug/L	A	T

LDC #: 25067C7 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/10/11
SDG #: 280-12173-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SW
2nd Reviewer:

METHOD: GC TPH as Gasoline(EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D = 1, 2
X.	Field blanks	SW	TB = 3, 4

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-38B_020211_01 D	11	MB 280-52249/5	21		31	
2	RD-38B_020211_36 D	12	MB 280-52768/6	22		32	
3	TB RD-38B_020211	13		23		33	
4	TB_PZ-144_020111	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25067 C7

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JVG
2nd Reviewer: Q

METHOD: / **GC** ___ **HPLC**

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: NA **Blank analysis date:** 2/07/11 **Associated samples:** 1, 2 Code: B
Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	MB280-52742/5	1	2					
$C_6 - C_{12}$	7.16	6.2 /100 U	11 /100 U					

Blank extraction date: NA **Blank analysis date:** 2/08/11 **Associated samples:** 3, 4 Code: B
Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	MB280-52768/6	3	4					
$C_6 - C_{12}$	9.39		8.8 /100 U	11 /100 U				

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 25067C7

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: VG
2nd Reviewer:

METHOD: / GC __ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 2/02/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 1, 2 Cont: T

Compound	Blank ID	Blank ID	Sample Identification							
	3		1	2						
$C_6 - C_{12}$	8.8		6.2/100U	11/100U						
CRQL										

Blank units: ug/L Associated sample units: NA
Sampling date: 2/12/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: None

Compound	Blank ID	Blank ID	Sample Identification							
	4									
$C_6 - C_{12}$	11									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#:25067C7 **VALIDATION FINDINGS WORKSHEET**
Field Duplicates

Page: 1 of 1
Reviewer: OV6
2nd Reviewer: [illegible]

METHOD: GC TPH as Gasoline (EPA SW 846 Method 8015B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/L)		(≤35%)	Qualifications
	SH-03_020211_01	SH-03_020211_36	RPD	(Parent Only)
C6-C12	6.2	11	56	NQ

V:\FIELD DUPLICATES\25067C7.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 2, 2011
LDC Report Date:	March 11, 2011
Matrix:	Water
Parameters:	Diesel Range Organics
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12173-1

Sample Identification

RD-38B_020211_01
RD-38B_020211_36
RD-43A_020211_01
RD-43C_020211_01
RD-77_020211_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples RD-38B_020211_01 and RD-38B_020211_36 were identified as field duplicates. No diesel range organics were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1	RD-38B_020211_01 RD-38B_020211_36 RD-43A_020211_01 RD-43C_020211_01 RD-77_020211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

LDC #: 25067C8 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/10/11
SDG #: 280-12173-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC Diesel Range Organics (EPA Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS / D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 1, 7
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-38B_020211_01 D	11	MB 280-51798/1-A	21		31	
2	RD-38B_020211_36 D	12		22		32	
3	RD-43A_020211_01	13		23		33	
4	RD-43C_020211_01	14		24		34	
5	RD-77_020211_01	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 2, 2011
LDC Report Date:	March 11, 2011
Matrix:	Water
Parameters:	Formaldehyde
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12173-1/A1B030463

Sample Identification

RD-38B_020211_01
RD-38B_020211_36
RD-43A_020211_01
RD-43C_020211_01
RD-77_020211_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1/A1B030463	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples RD-38B_020211_01 and RD-38B_020211_36 were identified as field duplicates. No polychlorinated biphenyl was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-12173-1/A1B030463

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1/A1B030463	RD-38B_020211_01 RD-38B_020211_36 RD-43A_020211_01 RD-43C_020211_01 RD-77_020211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-12173-1/A1B030463

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-12173-1/A1B030463

No Sample Data Qualified in this SDG

LDC #: 25067C71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/10/11

SDG #: 280-12173-1/A1B030463 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: SV6

2nd Reviewer: [illegible]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS / D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 1, 2
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-38B_020211_01 D	11	103425-MB	21		31	
2	RD-38B_020211_36 D	12		22		32	
3	RD-43A_020211_01	13		23		33	
4	RD-43C_020211_01	14		24		34	
5	RD-77_020211_01	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 2, 2011

LDC Report Date: March 16, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12173-1

Sample Identification

RD-38B_020211_01
RD-38B_020211_36
RD-43A_020211_01
RD-43C_020211_01
RD-77_020211_01
RD-52A_020211_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-51991/25	2/4/11	Hydrazine Monomethyl hydrazine	0.890 ug/L 0.810 ug/L	All samples in SDG 280-12173-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-12173-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-1	RD-38B_020211_01 RD-38B_020211_36 RD-43A_020211_01 RD-43C_020211_01 RD-77_020211_01 RD-52A_020211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-12173-1

No Sample Data Qualified in this SDG

LDC #: 25067C76

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/16/11

SDG #: 280-12173-1

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: CC

2nd Reviewer: V

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/2/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	N	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Specified
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	(1,2)
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-38B_020211_01	11		21		31	
2	RD-38B_020211_36	12		22		32	
3	RD-43A_020211_01	13		23		33	
4	RD-43C_020211_01	14		24		34	
5	RD-77_020211_01	15		25		35	
6	RD-52A_020211_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25067C76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: W

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1-6		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
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		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments:

LDC #: 25067C67

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: CR
2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?

Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?

Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 2/4/11

Conc. units: ug/L Associated Samples: All

Compound	Blank ID	Sample Identification								
	MB 280-51991/25	No Qual (ND)								
Hydrazine	0.890									
Monomethyl Hydrazine	0.810									

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants that were detected in samples within five times the associated method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 14, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24929:

SDG #	Fraction
280-11669-2 280-11825-1 280-11859-1/ A1A250439 280-11864-1/ H1A260453	Volatiles, 1,4-Dioxane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, N-Nitrosodimethylamine, Polychlorinated Biphenyls, Metals, Wet Chemistry, Diesel Range Organics, Formaldehyde, Hydrazine, Dioxins/Dibenzofurans, Perchlorate

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

Pei Geng
Project Manager/Senior Chemist

V:\LOGIN\MWH\Boeing\24929COV.wpd

Client Select IV

LDC #24929 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B)		SVOA (8270C)		PAHs (8270C -SIM)		NDMA (1625)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxins (8290)		CLO_4 (6860)					
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11669-2	02/14/11	03/08/11	-	-	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0				
B	280-11825-1	02/14/11	03/08/11	11	0	11	0	8	0	-	-	8	0	-	-	3	0	3	0	5	0	-	-	2	0	-	-	-	-	-	-	-	-				
C	280-11859-1/ A1A250439	02/14/11	03/08/11	9	0	9	0	5	0	2	0	5	0	2	0	1	0	1	0	2	0	4	0	1	0	1	0	2	0	-	-	-	-				
D	280-11864-1/ H1A260453	02/14/11	03/08/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-				
Total	T/PG			20	0	20	0	13	0	2	0	19	0	2	0	4	0	4	0	7	0	4	0	3	0	1	0	2	0	1	0	1	0	0	0	0	103

Client Select IV

LDC #24929 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.1)		Cl SO_4 (300.0)		Br NO_2-N O-PO_4		F NO_3-N (300.0)		Cond. (2510B)		Cr(VI) (7196A)		Diss. Cr(VI) (7196A)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)									
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
B	280-11825-1	02/14/11	03/08/11	3	0	9	0	3	0	-	-	9	0	3	0	-	-	-	-	9	0	8	0	3	0	3	0										
C	280-11859-1	02/14/11	03/08/11	-	-	3	0	1	0	1	0	4	0	-	-	1	0	1	0	4	0	3	0	-	-	-	-										
Total	T/PG			3	0	12	0	4	0	1	0	13	0	3	0	1	0	1	0	13	0	11	0	3	0	3	0	0	0	0	0	0	0	0	0	0	68

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-2

Sample Identification

ES-27_011711_36
FB_ES-27_011711_19
HAR-08_011711_36
FB_HAR-08_011711_19
HAR-32_011711_36
FB_HAR-32_011711_19

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples FB_ES-27_011711_19, FB_HAR-08_011711_19, and FB_HAR-32_011711_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

The laboratory indicated the samples were extracted for 8 hours. The method requires the samples be extracted for a minimum of eighteen hours.

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples ES-27_011711_36 and ES-27_011711_01 (from SDG 280-11669-1), samples HAR-08_011711_36 and HAR-08_011711_01 (from SDG 280-11669-1), and samples HAR-32_011711_36 and HAR-32_011711_36 (from SDG 280-11669-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	ES-27_011711_36	ES-27_011711_01	
N-Nitrosodimethylamine	0.0058	0.0059	2 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-08_011711_36	HAR-08_011711_01	
N-Nitrosodimethylamine	0.016	0.016	0 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-32_011711_36	HAR-32_011711_01	
N-Nitrosodimethylamine	0.18	0.18	0 (≤35)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11669-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-2	ES-27_011711_36 FB_ES-27_011711_19 HAR-08_011711_36 FB_HAR-08_011711_19 HAR-32_011711_36 FB_HAR-32_011711_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11669-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11669-2

No Sample Data Qualified in this SDG

LDC #: 24929A2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11669-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D1 = 1 + EG-27_011711-01 D2 = 3 + HAR-08_011711-01 D3 = 5 + HAR-32_011711-01 > all from 280-11669-1
XVII.	Field blanks	ND	FB = 2 [illegible] 6

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	ES-27_011711_36	11	MB 280-50012/1-A	21		31	
2	FB_ES-27_011711_19	12		22		32	
3	HAR-08_011711_36	13		23		33	
4	FB_HAR-28_011711_19	14		24		34	
5	HAR-32_011711_36	15		25		35	
6	FB_HAR-32_011711_19	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(Note: Samples extracted for 8 hours rather than 18 hrs)

LDC#:24910A2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MC
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625)

(Y) N NA Were field duplicate pairs identified in this SDG?
(Y) N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	1	ES-27_011711_01		
NDMA	0.0058	0.0059	2	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	3	HAR-08_011711_01		
NDMA	0.016	0.016	0	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	5	HAR-32_011711_01		
NDMA	0.18	0.18	0	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 17, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11669-2

Sample Identification

HAR-25_011711_01
HAR-25_011711_01MS
HAR-25_011711_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. LC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11669-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Data Qualification Summary - SDG 280-11669-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11669-2	HAR-25_011711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-11669-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG 280-11669-2

No Sample Data Qualified in this SDG

LDC #: 24929A87 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11669-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer:

METHOD: IC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/17/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-25_011711_01	11	MB 280-50737/4	21		31	
2	HAR-25_011711_01MS	12		22		32	
3	HAR-25_011711_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 29929 A87

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MO
2nd Reviewer:

METHOD: GC/MS ~~BNA~~ (EPA SW 8~~46 Method 8270~~) ClO4- 6860

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		2/3 (20x)	Perchlorate	63 (80-120)	63 (80-120)	( )	1	No qual (Parent conc. >4x spike amt)
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)		Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
A.	Phenol	26-90%	≤ 35%	12-110%	≤ 42%	GG	Acenaphthene	31-137%	≤ 19%	46-118%	≤ 31%
C.	2-Chlorophenol	25-102%	≤ 50%	27-123%	≤ 40%	II.	4-Nitrophenol	11-114%	≤ 50%	10-80%	≤ 50%
E.	1,4-Dichlorobenzene	28-104%	≤ 27%	36-97%	≤ 28%	KK.	2,4-Dinitrotoluene	28-89%	≤ 47%	24-96%	≤ 38%
J.	N-Nitroso-di-n-propylamine	41-126%	≤ 38%	41-116%	≤ 38%	TT.	Pentachlorophenol	17-109%	≤ 47%	9-103%	≤ 50%
R.	1,2,4-Trichlorobenzene	38-107%	≤ 23%	39-98%	≤ 28%	ZZ.	Pyrene	35-142%	≤ 36%	26-127%	≤ 31%
V.	4-Chloro-3-methylphenol	26-103%	≤ 33%	23-97%	≤ 42%						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 21, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11825-1

Sample Identification

HAR-15_012111_01
TB_HAR-15_012111
RD-45A_012111_01
SH-02_012111_01
TB_SH-02_012111
SH-03_012111_01
SH-04_012111_01
RD-49B_012111_01
TB_RD-49B_012111
RD-49C_012111_01
RD-52A_012111_01
HAR-15_012111_01MS
HAR-15_012111_01MSD
SH-03_012111_01MS
SH-03_012111_01MSD

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_HAR-15_012111, TB_SH-02_012111, and TB_RD-49B_012111 were identified as trip blanks. No volatile contaminants were found in these blanks.

Sample EB_RD_67_011311 (from SDG 280-11605-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_RD_67_011311	1/14/11	Chloroform	5.8 ug/L	SH-02_012111_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform	2.5 ug/L	SH-02_012111_01 SH-03_012111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SH-02_012111_01	Chloroform	23 ug/L	23U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-45A_012111_01 (4X)	Toluene-d8	112 (88-110)	cis-1,2-Dichloroethene Trichloroethene	J (all detects) J (all detects)	A
TB_SH-02_012111	Dibromofluoromethane	120 (86-118)	All TCL compounds	J (all detects)	P
SH-03_012111_01 (4X)	Dibromofluoromethane	120 (86-118)	Chloroform	J (all detects)	A
RD-49B_012111_01	Toluene-d8	111 (88-110)	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects)	A
TB_RD-49B_012111	Toluene-d8 Dibromofluoromethane	111 (88-110) 125 (86-118)	All TCL compounds	J (all detects)	P
RD-49C_012111_01	Dibromofluoromethane	119 (86-118)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
SH-03_012111_01MS/MSD (SH-03_012111_01)	Carbon tetrachloride	-	126 (80-120)	-	J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11825-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11825-1	RD-45A_012111_01 (4X)	cis-1,2-Dichloroethene Trichloroethene	J (all detects) J (all detects)	A	Surrogate spikes (%R) (S)
280-11825-1	TB_SH-02_012111 TB_RD-49B_012111 RD-49C_012111_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-11825-1	SH-03_012111_01 (4X)	Chloroform	J (all detects)	A	Surrogate spikes (%R) (S)
280-11825-1	RD-49B_012111_01	All TCL compounds except cis-1,2-Dichloroethene Trichloroethene	J (all detects)	A	Surrogate spikes (%R) (S)
280-11825-1	SH-03_012111_01	Carbon tetrachloride	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-11825-1	HAR-15_012111_01 TB_HAR-15_012111 RD-45A_012111_01 SH-02_012111_01 TB_SH-02_012111 SH-03_012111_01 SH-04_012111_01 RD-49B_012111_01 TB_RD-49B_012111 RD-49C_012111_01 RD-52A_012111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11825-1	SH-02_012111_01	Chloroform	23U ug/L	A	F

LDC #: 24929B1a
SDG #: 280-11825-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 2/17/11
Page: 1 of 1
Reviewer: VG
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	~~SW~~ A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2, 5, 9 FB = FB_011411_19 EB = EB_RD-67_011311 (280-11605-1) (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

+ 1	HAR-15_012111_01	+ 1/Y 11	RD-52A_012111_01	(4x, 4x) 21 1	MB 280-51193/6	31	
- 2	TB_HAR-15_012111	12	HAR-15_012111_01MS	22 Y	MB 280-51411/6	32 (K, 0.82, 5 mL)	
4x + 3	RD-45A_012111_01	13	HAR-15_012111_01MSD	23		33	
+ 4	SH-02_012111_01	14 Y	SH-03_012111_01MS	24		34	
- 5	TB_SH-02_012111	15 Y	SH-03_012111_01MSD	25		35	
4x + 6 1/Y	SH-03_012111_01	16		26		36	
+ 7	SH-04_012111_01	17		27		37	
6.7x + 8 1/Y	RD-49B_012111_01	18		28		38	
~~6.7x~~ - 9	TB_RD-49B_012111	19		29		39	
+ 10	RD-49C_012111_01	20		30		40	

VOCs + IPA = 1-3, 11
VOCs = 4-10

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	lll. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24929B1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 4, 6

(from 280-11638-1) Compound	FB_011411_10 Blank ID	Blank ID	Sample Identification							
Sampling Date	1/14/11		4	6						
~~Methylene chloride~~ k	2.5		(23)	(9.4)						
~~Acetone~~ EF	~~0.40~~									
Chloroform										
CRQL										

5X
12.5

Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 4 Cold: F

(from 280-11605-1) Compound	EB_RD-67_01/13/11 Blank ID	Blank ID	Sample Identification							
Sampling Date			4							
~~Methylene chloride~~ k	5.8		23/4							
Acetone										
Chloroform										
CRQL										

5X
29

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24929 B1c

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: MG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		3 (4x)	TOL	112 (88-110)	J dets/A (CQQQ, S only) (S)
		5	DFM	120 (86-118)	J dets/P
		6 (4x)	"	120 (")	J dets/A (K only)
		8	TOL	111 (88-110)	J dets/A (all except QQQ, S)
		9	TOL	111 (")	J dets/P
			BFM	125 (86-118)	"
		10	DFM	119 (")	"

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC #: 24929 B1b

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	14/15	O	( )	126 (80-120)	( )	6	J dets /A
		K	26 (78-120)	124 (78-120)	( )	↓	+ No gual
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		* Parent conc 7ax
			( )	( )	( )		Spike amt
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 21, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11825-1

Sample Identification

HAR-15_012111_01
TB_HAR-15_012111
RD-45A_012111_01
SH-02_012111_01
TB_SH-02_012111
SH-03_012111_01
SH-04_012111_01
RD-49B_012111_01
TB_RD-49B_012111
RD-49C_012111_01
RD-52A_012111_01

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_HAR-15_012111, TB_SH-02_012111, and TB_RD-49B_012111 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Sample EB_RD_67_011311 (from SDG 280-11605-1) was identified as a field blank. No 1,4-Dioxane was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11825-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11825-1	HAR-15_012111_01 TB_HAR-15_012111 RD-45A_012111_01 SH-02_012111_01 TB_SH-02_012111 SH-03_012111_01 SH-04_012111_01 RD-49B_012111_01 TB_RD-49B_012111 RD-49C_012111_01 RD-52A_012111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

LDC #: 24929B1b

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-11825-1

Level V

Laboratory: Test America Laboratories, Inc.

Date: 2/17/11
Page: 1 of 1
Reviewer: JV
2nd Reviewer: [illegible]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 5, 9 FB = FB_011411_19 EB = EB_RD-67-011311 (280-11605-1) from 280-11638-1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

- 1	HAR-15_012111_01	+ 11	RD-52A_012111_01	- 21	MB 280-50686/5	31	
- 2	TB_HAR-15_012111	12		22		32	
+ 3	RD-45A_012111_01	13		23		33	
+ 4	SH-02_012111_01	14		24		34	
- 5	TB_SH-02_012111	15		25		35	
+ 6	SH-03_012111_01	16		26		36	
+ 7	SH-04_012111_01	17		27		37	
+ 8	RD-49B_012111_01	18		28		38	
- 9	TB_RD-49B_012111	19		29		39	
+ 10	RD-49C_012111_01	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 21, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11825-1

Sample Identification

HAR-15_012111_01
RD-45A_012111_01
SH-02_012111_01
SH-03_012111_01
SH-04_012111_01
RD-49B_012111_01
RD-49C_012111_01
RD-52A_012111_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11825-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11825-1	HAR-15_012111_01 RD-45A_012111_01 SH-02_012111_01 SH-03_012111_01 SH-04_012111_01 RD-49B_012111_01 RD-49C_012111_01 RD-52A_012111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

LDC #: 24929B2a **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11825-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVC
2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_011411_19 from 280-11638-1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-15_012111_01	11	MB 280-50309/1-A	21		31	
2	RD-45A_012111_01	12		22		32	
3	SH-02_012111_01	13		23		33	
4	SH-03_012111_01	14		24		34	
5	SH-04_012111_01	15		25		35	
6	RD-49B_012111_01	16		26		36	
7	RD-49C_012111_01	17		27		37	
8	RD-52A_012111_01	18		28		38	
9		19		29		39	
10		20		30		40	

NB = 1, 6, 7
Phthalates + NB = 2, 8
A + NB = 3-5

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 21, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11825-1

Sample Identification

HAR-15_012111_01
RD-45A_012111_01
SH-02_012111_01
SH-03_012111_01
SH-04_012111_01
RD-49B_012111_01
RD-49C_012111_01
RD-52A_012111_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples EB_SH-02_012111, EB_SH-03_012111, and EB_SH-04_012111 (all from SDG 280-11825-2) were identified as equipment blanks. No N-Nitrosodimethylamine was found in these blanks.

Samples FB_RD-45A_012111_19, FB_SH-02_012111_19, FB_SH-03_012111_19, FB_SH-04_012111_19, FB_RD-49B_012111_19, FB_RD-49C_012111_19 (all from SDG 280-11825-2), and FB_011411_19 (from SDG 280-11638-1) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_SH-04_012111_19	1/21/11	N-Nitrosodimethylamine	0.0062 ug/L	SH-04_012111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11825-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

The laboratory indicated the samples were extracted for 8 hours. The method requires the samples be extracted for a minimum of eighteen hours.

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-45A_012111_01 and RD-45A_012111_36 (from SDG 280-11825-2), samples SH-02_012111_01 and SH-02_012111_36 (from SDG 280-11825-2), samples SH-03_012111_01 and SH-03_012111_36 (from SDG 280-11825-2), samples SH-04_012111_01 and SH-04_012111_36 (from SDG 280-11825-2), samples RD-49B_012111_01 and RD-49B_012111_36 (from SDG 280-11825-2), and samples RD-49C_012111_01 and RD-49C_012111_36 (from SDG 280-11825-2) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	RD-45A_012111_01	RD-45A_012111_36	
N-Nitrosodimethylamine	0.0069	0.0065	6 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	SH-02_012111_01	SH-02_012111_36	
N-Nitrosodimethylamine	0.049	0.057	15 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	SH-03_012111_01	SH-03_012111_36	
N-Nitrosodimethylamine	0.10	0.13	26 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	SH-04_012111_01	SH-04_012111_36	
N-Nitrosodimethylamine	0.053	0.052	2 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	RD-49B_012111_01	RD-49B_012111_36	
N-Nitrosodimethylamine	0.043	0.040	7 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	RD-49C_012111_01	RD-49C_012111_36	
N-Nitrosodimethylamine	0.026	0.019	31 (≤35)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11825-1	HAR-15_012111_01 RD-45A_012111_01 SH-02_012111_01 SH-03_012111_01 SH-04_012111_01 RD-49B_012111_01 RD-49C_012111_01 RD-52A_012111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

LDC #: 24929B2b

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/17/11

SDG #: 280-11825-1

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D1 = 2 + RD-45A_012111_36 (SDG 280-11825-2) D2 = 3 + SH-02_012111_36
XVII.	Field blanks	SW	FB/EB=See below

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

*ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

D3 = 4 + SH-03_012111_36
D4 = 5 + SH-04_012111_36
D5 = 6 + RD-49B_012111_36
D6 = 7 + RD-49C_012111_36

Validated Samples:

Water

1	HAR-15_012111_01	11	MB 280-50825/1-A	21		31	FB_RD-45A_012111_19
2	RD-45A_012111_01 D1	12		22		32	FB_SH-02_012111_19
3	SH-02_012111_01 D2	13		23		33	FB_SH-03_012111_19
4	SH-03_012111_01 D3	14		24		34	FB_SH-04_012111_19
5	SH-04_012111_01 D4	15		25		35	FB_RD-49B_012111_19
6	RD-49B_012111_01 D5	16		26		36	FB_RD-49C_012111_19
7	RD-49C_012111_01 D6	17		27		37	EB_SH-02_012111_19
8	RD-52A_012111_01	18		28		38	EB_SH-03_012111_19
9		19		29		39	EB_SH-04_012111_19
10		20		30		40	FB_011411_19 (from 280-11698)

(Note: Samples were extracted for 8 hours rather than 18 hrs)

(All from 280-11825-2 except #40)

LDC #: 24929 B2h

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: SVG
2nd Reviewer:

METHOD: GC/MS ~~BNA~~ NDMA (EPA ~~SW-846 Method 8270C~~ 1625)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 1/21/11
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 5

Compound	Blank ID	Sample Identification								
(from 280-11825-2)	FB_SH-04_01211_19	5								
~~Diethylphthalate~~ NDMA	0.0067		0.053							
Di-n-butylphthalate										
Bis(2-ethylhexyl)phthalate										
CRQL										

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Diethylphthalate										
Di-n-butylphthalate										
Bis(2-ethylhexyl)phthalate										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC#:24929B2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: DVe
2nd Reviewer: [illegible]

METHOD: GC MS NDMA (EPA Method 1625)

(Y) N NA Were field duplicate pairs identified in this SDG?
(Y) N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	2	RD-45A_012111_36		
NDMA	0.0069	0.0065	6	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	3	SH-02_012111_36		
NDMA	0.049	0.057	15	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	4	SH-03_012111_36		
NDMA	0.10	0.13	26	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	5	SH-04_012111_36		
NDMA	0.053	0.052	2	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	6	RD-49B_012111_36		
NDMA	0.043	0.040	7	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	7	RD-49C_012111_36		
NDMA	0.026	0.019	31	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 21, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11825-1

Sample Identification

SH-02_012111_01
SH-03_012111_01
RD-49B_012111_01
SH-02_012111_01F
SH-03_012111_01F
RD-49B_012111_01F

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B for Metals. The metals analyzed were Calcium, Iron, Magnesium, Manganese, Potassium, Sodium, Strontium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese Sodium	0.000820 mg/L 0.135 mg/L	SH-02_012111_01 SH-03_012111_01 RD-49B_012111_01
PB (prep blank)	Sodium	0.219 mg/L	SH-02_012111_01F SH-03_012111_01F RD-49B_012111_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Samples FB_011411_19 and FB_011411_19F (both from SDG 280-11638-1) were identified as field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Calcium Manganese Sodium	0.048 mg/L 0.00030 mg/L 0.097 mg/L	SH-02_012111_01 SH-03_012111_01
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	SH-02_012111_01F SH-03_012111_01F

Samples EB-PZ-041_011311 and EB-PZ-041_011311F (both from SDG 280-11605-1) were identified as equipment blanks. No metal contaminants were found in these blanks.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11625-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11825-1	SH-02_012111_01 SH-03_012111_01 RD-49B_012111_01 SH-02_012111_01F SH-03_012111_01F RD-49B_012111_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

LDC #: 24929B4 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11825-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: W

METHOD: Metals (EPA SW 846 Method 6010B~~/6020/7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/21/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	N	Client specified
VII.	Duplicate Sample Analysis	N	↓
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	FB = FB_011411_19, FB_011411_19F CSOG: 280-11638- *EB = EB-PZ-041-011311, EB-PZ-041_011311F CSOG: 280-11605-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
*ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	SH-02_012111_01	11		21		31	
2	SH-03_012111_01	12		22		32	
3	RD-49B_012111_01	13		23		33	
4	SH-02_012111_01F	14		24		34	
5	SH-03_012111_01F	15		25		35	
6	RD-49B_012111_01F	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

SDC #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1 - 6		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN, (Sc)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN, (Sc)
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,

Comments: Mercury by CVAA if performed

LDC #: 24929B4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: CR
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1-3

				Sample Identification										
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Action Limit	No Qualifiers										
Mn		0.000820	0.0041											
Na		0.135	0.675											

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 4-6

				Sample Identification										
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Action Limit	No Qualifiers										
Na		0.219	1.095											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24929B4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 1, 2

Analyte	Blank ID	Sample Identification										
	FB_011411_19 (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.048	0.24										
Mn	0.00030	0.002										
Na	0.097	0.485										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24929B4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 4, 5

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 21, 2011

LDC Report Date: March 3, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11825-1

Sample Identification

HAR-15_012111_01	RD-49B_012111_01ADUP
HAR-15_012111_01A	
RD-45A_012111_01	
SH-02_012111_01	
SH-02_012111_01A	
SH-03_012111_01	
SH-03_012111_01A	
EB_SH-04_012111	
SH-04_012111_01	
RD-49B_012111_01	
RD-49B_012111_01A	
RD-49C_012111_01	
RD-52A_012111_01	
HAR-15_012111_01AMS	
HAR-15_012111_01AMSD	
HAR-15_012111_01ADUP	
SH-02_012111_01ADUP	
SH-03_012111_01ADUP	
SH-04_012111_01MS	
SH-04_012111_01MSD	

Introduction

This data review covers 21 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, Standard Method 2510B for Conductivity, EPA Method 300.0 for Fluoride, Nitrate, Chloride and Sulfate, EPA Method 314.0 for Perchlorate, EPA Method 9040B for pH, Method 2540C for Total Dissolved Solids and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Continuing calibration data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0552 mg/L	HAR-15_012111_01 RD-45A_012111_01 SH-02_012111_01 SH-03_012111_01 EB_SH-04_012111 SH-04_012111_01 RD-49B_012111_01 RD-49C_012111_01 RD-52A_012111_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-15_012111_01	Ammonia as N	0.065 mg/L	0.065U mg/L
RD-45A_012111_01	Ammonia as N	0.067 mg/L	0.067U mg/L
SH-02_012111_01	Ammonia as N	0.10 mg/L	0.10U mg/L
SH-03_012111_01	Ammonia as N	0.063 mg/L	0.063U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-04_012111_01	Ammonia as N	0.065 mg/L	0.065U mg/L
RD-49B_012111_01	Ammonia as N	0.080 mg/L	0.080U mg/L
RD-49C_012111_01	Ammonia as N	0.059 mg/L	0.059U mg/L

Sample EB_SH-04_012111 was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_012111	1/21/11	pH	5.89 pH units	SH-04_012111_01

Sample FB_011411_10 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

FieldBlank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_10	1/14/11	Ammonia as N	0.091 mg/L	SH-02_012111_01 SH-03_012111_01
FB_011411_10	1/14/11	Sulfate	0.37 mg/L	SH-02_012111_01A SH-03_012111_01A

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-02_012111_01	Ammonia as N	0.10 mg/L	0.10U mg/L
SH-03_012111_01	Ammonia as N	0.063 mg/L	0.063U mg/L

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11825-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11825-1	HAR-15_012111_01 HAR-15_012111_01A RD-45A_012111_01 SH-02_012111_01 SH-02_012111_01A SH-03_012111_01 SH-03_012111_01A EB_SH-04_012111 SH-04_012111_01 RD-49B_012111_01 RD-49B_012111_01A RD-49C_012111_01 RD-52A_012111_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11825-1	HAR-15_012111_01	Ammonia as N	0.065U mg/L	A	B
280-11825-1	RD-45A_012111_01	Ammonia as N	0.067U mg/L	A	B
280-11825-1	SH-02_012111_01	Ammonia as N	0.10U mg/L	A	B
280-11825-1	SH-03_012111_01	Ammonia as N	0.063U mg/L	A	B
280-11825-1	SH-04_012111_01	Ammonia as N	0.065U mg/L	A	B
280-11825-1	RD-49B_012111_01	Ammonia as N	0.080U mg/L	A	B
280-11825-1	RD-49C_012111_01	Ammonia as N	0.059U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11825-1	SH-02_012111_01	Ammonia as N	0.10U mg/L	A	F
280-11825-1	SH-03_012111_01	Ammonia as N	0.063U mg/L	A	F

LDC #: 24929B6 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11825-1 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: CR
2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.2), Conductivity (SM2510B), Chloride, Fluoride, Nitrate, Sulfate (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/21/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	D
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	SW	FB= FB_011411-19 (SDG: 280-11638-1) EB= 8

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	HAR-15_012111_01	11	RD-49B_012111_01A	21	RD-49B_012111_01ADUP	31	
2	HAR-15_012111_01A	12	RD-49C_012111_01	22		32	
3	RD-45A_012111_01	13	RD-52A_012111_01	23		33	
4	SH-02_012111_01	14	HAR-15_012111_01AMS	24		34	
5	SH-02_012111_01A	15	HAR-15_012111_01AMSD	25		35	
6	SH-03_012111_01	16	HAR-15_012111_01ADUP	26		36	
7	SH-03_012111_01A	17	SH-02_012111_01ADUP	27		37	
8	EB_SH-04_012111	18	SH-03_012111_01ADUP	28		38	
9	SH-04_012111_01	19	SH-04_012111_01MS	29		39	
10	RD-49B_012111_01	20	SH-04_012111_01MSD	30		40	

Notes:

LDC #: 24422B6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: V

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,4,6,10		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} ClO_4
2		(**pH**) TDS Cl (**F**) (**NO_3**) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (**ClO_4**)
3,8,9,13		(**pH**) TDS Cl (**F**) (**NO_3**) NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**)
5,7,11		(**pH**) TDS (**Cl**) (**F**) (**NO_3**) NO_2 (**SO_4**) PO_4 (**ALK**) CN^- NH_3 TKN TOC CR^{6+} (**ClO_4**) Turb. Cond
12		pH TDS Cl (**F**) (**NO_3**) NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC: 14		pH TDS (**Cl**) (**F**) (**NO_3**) NO_2 (**SO_4**) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
15		pH TDS (**Cl**) (**F**) (**NO_3**) NO_2 (**SO_4**) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
16		pH TDS (**Cl**) (**F**) (**NO_3**) NO_2 (**SO_4**) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
17		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Turb
18		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Cond
19		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} ClO_4
20		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} ClO_4
21		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Cond
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 24929B6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples:** 1, 3, 4, 6, 8-10, 12, 13 **Reason Code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		1	3	4	6	9	10	12				
NH3-N	0.0552		0.276	0.065	0.067	0.10	0.063	0.065	0.080	0.059				

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24929B6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover

(Y) N N/A Were field blanks identified in this SDG?
Y (N) N/A Were target analytes detected in the field blanks? Reason: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 4,6=NH3; 5,7=SO4

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		4	6						
Ammonia as N	0.091	0.455	0.10	0.063						
Sulfate	0.37	1.85								

Sampling date: 1/21/11 Soil factor applied NA
Blank units: pH units **Associated sample units:** pH units
Field blank type: (circle one) Field Blank / Rinsate / Other: (EB) Associated Samples: 9

Analyte	Blank ID	Action Limit	Sample Identification							
	8		No Qualifiers							
pH	5.89									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 21, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Diesel

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11825-1

Sample Identification

HAR-15_012111_01
RD-45A_012111_01
RD-49B_012111_01
RD-49C_012111_01
RD-52A_012111_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Total Petroleum Hydrocarbons (TPH) as Diesel.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as diesel contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11825-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11825-1	HAR-15_012111_01 RD-45A_012111_01 RD-49B_012111_01 RD-49C_012111_01 RD-52A_012111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Laboratory Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Field Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

LDC #: 24929B8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11825-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/21/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS / D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-15_012111_01	11	MB 280-50078/1-A	21		31	
2	RD-45A_012111_01	12		22		32	
3	RD-49B_012111_01	13		23		33	
4	RD-49C_012111_01	14		24		34	
5	RD-52A_012111_01	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 21, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11825-1

Sample Identification

RD-49B_012111_01
RD-49C_012111_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11825-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11825-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11825-1	RD-49B_012111_01 RD-49C_012111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11825-1

No Sample Data Qualified in this SDG

LDC #: 24929B76 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/18/11
SDG #: 280-11825-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VG
2nd Reviewer:

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/21/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-49B_012111_01	11	MB 280-50217/25	21		31	
2	RD-49C_012111_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24929 B76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [signature]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
All	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 24, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11859-1

Sample Identification

HAR-05_012411_01
RD-11_012411_01
TB_RD-11_012411
RD-12_012411_01
EB_PZ-140_012411
PZ-140_012411_01
TB_PZ-140_012411
RD-34C_012411_01
TB_RD-34C_012411
PZ-140_012411_01MS
PZ-140_012411_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-11_012411, TB_PZ-140_012411, and TB_RD-34C_012411 were identified as trip blanks. No volatile contaminants were found in these blanks.

Sample EB_PZ-140_012411 was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-140_012411	1/24/11	Chloroform	2.2 ug/L	PZ-140_012411_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform Styrene	2.5 ug/L 0.40 ug/L	PZ-140_012411_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11859-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11859-1	HAR-05_012411_01 RD-11_012411_01 TB_RD-11_012411 RD-12_012411_01 EB_PZ-140_012411 PZ-140_012411_01 TB_PZ-140_012411 RD-34C_012411_01 TB_RD-34C_012411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

LDC #: 24929C1a

SDG #: 280-11859-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/17/11

Page: 1 of 1

Reviewer: M

2nd Reviewer: ✓

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	*TB = 3, 7, 9 EB = 5 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

+ ✓ 1	HAR-05_012411_01	11	PZ-140_012411_01MSD	21	MB 280-51000/5	31 (FFFF, GGGG, II only)	
− ✓ 2	RD-11_012411_01	12		22 ✓	MB 280-51302/6	32	
− ✓ 3	TB_RD-11_012411	13		23		33	
+ ✓ 4	RD-12_012411_01	14		24		34	
+ 1/✓ 5	EB_PZ-140_012411	15		25		35	
+ 1/✓ 6	PZ-140_012411_01	16		26		36	
− 1/✓ 7	TB_PZ-140_012411	17		27		37	
− ✓ 8	RD-34C_012411_01	18		28		38	
− ✓ 9	TB_RD-34C_012411	19		29		39	
10	PZ-140_012411_01MS	20		30		40	

VOCs + IPA = 1

VOCs = 2-4, 8, 9

VOCs SH gb = 5-7

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #:_____

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JM
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units:_____ **Associated sample units:**_____

Field blank type: (circle one) (Field Blank) / Rinsate / Trip Blank / Other:_____ Associated Samples: 6 (ND)

(from 280-11628-1) Compound	FB_011411_19 Blank ID	Blank ID 5	Sample Identification							
Sampling Date	1/14/11	1/24/11								
~~Methylene chloride~~ K	2.5	2.2								
~~Acetone~~ FF	0.40									
Chloroform										
CRQL										

Blank units:_____ **Associated sample units:**_____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other:_____ Associated Samples:_____

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 24, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11859-1

Sample Identification

HAR-05_012411_01
RD-11_012411_01
TB_RD-11_012411
RD-12_012411_01
EB_PZ-140_012411
PZ-140_012411_01
TB_PZ-140_012411
RD-34C_012411_01
TB_RD-34C_012411
PZ-140_012411_01MS
PZ-140_012411_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_RD-11_012411, TB_PZ-140_012411, and TB_RD-34C_012411 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Sample EB_PZ-140_012411 was identified as an equipment blank. No 1,4-Dioxane was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-50893/3,4 (All samples in SDG 280-11859-1)	1,4-Dioxane	-	-	21 (≤20)	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11859-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11859-1	HAR-05_012411_01 RD-11_012411_01 TB_RD-11_012411 RD-12_012411_01 EB_PZ-140_012411 PZ-140_012411_01 TB_PZ-140_012411 RD-34C_012411_01 TB_RD-34C_012411	1,4-Dioxane	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
280-11859-1	HAR-05_012411_01 RD-11_012411_01 TB_RD-11_012411 RD-12_012411_01 EB_PZ-140_012411 PZ-140_012411_01 TB_PZ-140_012411 RD-34C_012411_01 TB_RD-34C_012411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

LDC #: 24929C1b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11859-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	SW	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	—
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3, 7, 9 EB = 5 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	HAR-05_012411_01	11	PZ-140_012411_01MSD	21	MB 280-50893/5	31	
2	RD-11_012411_01	12		22		32	
3	TB_RD-11_012411	13		23		33	
4	RD-12_012411_01	14		24		34	
5	EB_PZ-140_012411	15		25		35	
6	PZ-140_012411_01	16		26		36	
7	TB_PZ-140_012411	17		27		37	
8	RD-34C_012411_01	18		28		38	
9	TB_RD-34C_012411	19		29		39	
10	PZ-140_012411_01MS	20		30		40	

LDC #: 29929 c16

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?
Y (N) N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	LCS/D 280-50893/3,4	1,4-Dioxane	( )	( )	21 (20)	All	J/UJ/P (E)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 24, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11859-1

Sample Identification

HAR-05_012411_01
RD-11_012411_01
RD-12_012411_01
EB_PZ-140_012411
PZ-140_012411_01
PZ-140_012411_01MS
PZ-140_012411_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_PZ-140_012411 was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11859-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11859-1	HAR-05_012411_01 RD-11_012411_01 RD-12_012411_01 EB_PZ-140_012411 PZ-140_012411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

LDC #: 24929C2a **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11859-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 4 FB = FB_011411_19 (from 280-11623-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-05_012411_01	11	MB 280-50689/1-A	21		31	
2	RD-11_012411_01	12		22		32	
3	RD-12_012411_01	13		23		33	
4	EB_PZ-140_012411	14		24		34	
5	PZ-140_012411_01	15		25		35	
6	PZ-140_012411_01MS	16		26		36	
7	PZ-140_012411_01MSD	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

NB = 1
NB + A = 2, 3
Full = 4, 5

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 24, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11859-1

Sample Identification

HAR-05_012411_01
RD-11_012411_01
RD-12_012411_01
EB_PZ-140_012411
PZ-140_012411_01
PZ-140_012411_01MS
PZ-140_012411_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-140_012411 was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11859-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11859-1	HAR-05_012411_01 RD-11_012411_01 RD-12_012411_01 EB_PZ-140_012411 PZ-140_012411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

LDC #: 24929C2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11859-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24 /11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS /D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 4 FB = FB_011411_19 (from 280-11636-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-05_012411_01	11	MB 280-50835/1-A	21		31	
2	RD-11_012411_01	12	MB 280-51059/1-A	22		32	
3	RD-12_012411_01	13		23		33	
4	EB_PZ-140_012411	14		24		34	
5	PZ-140_012411_01	15		25		35	
6	PZ-140_012411_01MS	16		26		36	
7	PZ-140_012411_01MSD	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 24, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11859-1

Sample Identification

EB_PZ-140_012411
PZ-140_012411_01
PZ-140_012411_01MS
PZ-140_012411_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
PZ-140_012411_01 PZ-140_012411_01MS PZ-140_012411_01MSD	All TCL compounds	10	7	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-50436/1-A	1/26/11	Di-n-butylphthalate Di-n-octylphthalate	0.0373 ug/L 0.164 ug/L	EB_PZ-140_012411
MB 280-51794/1-A	2/3/11	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.552 ug/L 0.138 ug/L 0.164 ug/L 0.748 ug/L	PZ-140_012411_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
EB_PZ-140_012411	Di-n-butylphthalate Di-n-octylphthalate	0.026 ug/L 0.20 ug/L	9.8U ug/L 9.8U ug/L
PZ-140_012411_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.68 ug/L 0.24 ug/L 0.35 ug/L 0.78 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L

Sample EB_PZ-140_012411 was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-140_012411	1/24/11	Naphthalene Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	0.0075 ug/L 0.026 ug/L 0.20 ug/L 0.022 ug/L	PZ-140_012411_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Benzo(a)anthracene Chrysene Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.0054 ug/L 0.0037 ug/L 0.0073 ug/L 0.14 ug/L 0.060 ug/L 0.094 ug/L 0.51 ug/L	PZ-140_012411_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-140_012411_01	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.0067 ug/L 0.68 ug/L 0.58 ug/L 0.24 ug/L 0.78 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-51794/2,3-A (PZ-140_012411_01 MB 280-51794/1-A)	Butylbenzylphthalate Di-n-octylphthalate	141 (38-120) -	141 (38-120) 133 (39-128)	- -	J (all detects) J (all detects)	A

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11859-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11859-1	PZ-140_012411_01	All TCL compounds	J (all detects) UJ (all non-detects)	P	Technical holding time (H)
280-11859-1	PZ-140_012411_01	Butylbenzylphthalate Di-n-octylphthalate	J (all detects) J (all detects)	A	Laboratory control samples (%R) (L)
280-11859-1	EB_PZ-140_012411 PZ-140_012411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11859-1	EB_PZ-140_012411	Di-n-butylphthalate Di-n-octylphthalate	9.8U ug/L 9.8U ug/L	A	B
280-11859-1	PZ-140_012411_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11859-1	PZ-140_012411_01	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	F

LDC #: 24929C2c

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-11859-1

Level V

Laboratory: Test America, Inc.

Date: 2/17/11

Page: 1 of 1

Reviewer: QV6

2nd Reviewer: [signature]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/24/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	SW	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 1 FB = PB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-140_012411	11	MB 280-50436/1-A	21		31	
2	PZ-140_012411_01	12	MB 280-51794/1-A	22		32	
3	PZ-140_012411_01MS	13		23		33	
4	PZ-140_012411_01MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(PAH, Phthalates + NDMA)

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 29929 C2C

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: JM
2nd Reviewer: [illegible]

All circled dates have exceeded the technical holding times.
(Y) N N/A Were all cooler temperatures within validation criteria?

METHOD : GC/MS BNA (EPA SW 846 Method 8270)

Sample ID	Matrix	Preserved	Sampling Date	Extraction date	Analysis date	Total # of Days	Qualifier
2-A	W	N	1/24/11	2/03/11	2/04/11	10	J/UJ/P (HT)

TECHNICAL HOLDING TIME CRITERIA

Water: Extracted within 7 days, analyzed within 40 days.
Soil: Extracted within 14 days, analyzed within 40 days.

LDC #: 24929C2C

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JM
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 1/26/11 **Blank analysis date:** 2/01/11
Conc. units: ug/L Associated Samples: 1 Code: B

Compound	Blank ID	Sample Identification								
	MB 280-50436/1-A	1								
XX	0.0373	0.026/9.8U								
FFF	0.164	0.20/ ↓								

Blank extraction date: 2/03/11 **Blank analysis date:** 2/04/11
Conc. units: ug/L Associated Samples: 2 Code: B

Compound	Blank ID	Sample Identification								
	MB 280-51794/1-A	2								
EEE	0.552	0.68/10U								
XX	0.138	0.24/								
LL	0.184	0.35/								
FFF	0.748	6.78/ ↓								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24929C2C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: VB
2nd Reviewer: L

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: 1/14/11 ; 1/24/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2 Code: F

Compound	1/14/11 Blank ID	1/24/11		Sample Identification						
(from 280-11638-1)	FB_011411_19	1 (EB)		2						
~~Diethylphthalate~~ CCC	0.0054									
Di-~~n~~-butylphthalate DDD	0.0037									
Bis(2-ethylhexyl)phthalate S	0.0073	0.0075		0.0067/10U						
EEE	0.14			0.68 /						
AAA	0.060			0.58 /						
XX	0.094	0.026		0.24 /						
CRQL FFF	0.57	0.20		0.78 /						
	LL	0.022		0.35						

x = 1.4
0.6
0.94
5.1
0.22

Blank units: _____ **Associated sample units:** _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Diethylphthalate										
Di-n-butylphthalate										
Bis(2-ethylhexyl)phthalate										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24929C2c

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Reviewer: JM
2nd Reviewer: L

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?

Y (N) N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS ID 280-51794/2,3-A	AAA	141 (38-120)	141 (38-120)	( )	2, MB 280-51794/1-A	J detect/p
			FFF	( )	133 (39-128)	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	(

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	March 3, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11859-1

Sample Identification

EB_PZ-140_012411
PZ-140_012411_01
PZ-140_012411_01MS
PZ-140_012411_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_PZ-140_012411 was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11859-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11859-1	EB_PZ-140_012411 PZ-140_012411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

LDC #: 24929C3b

SDG #: 280-11859-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/17/11

Page: 1 of 1

Reviewer: SVG

2nd Reviewer: W

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 1 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	EB_PZ-140_012411	11	MB 280-50424/1-A	21		31	
2	PZ-140_012411_01	12		22		32	
3	PZ-140_012411_01MS	13		23		33	
4	PZ-140_012411_01MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	February 18, 2011
Matrix:	Water
Parameters:	Metals
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11859-1

Sample Identification

EB_PZ-140_012411F
EB_PZ-140_012411FMS
EB_PZ-140_012411FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc and Molybdenum.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Samples EB_PZ-140_012411F was identified as an equipment blanks. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-140_012411F	1/24/11	Boron Sodium Thallium	0.0038 mg/L 0.17 mg/L 0.000022 mg/L	No associated samples in this SDG

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11859-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11859-1	EB_PZ-140_012411F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

LDC #: 24929C4 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/14/11
SDG #: 280-11859-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: W

METHOD: Metals (EPA SW 846 Method 6010B/6020~~/7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	A	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=1&2

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

~~1~~	~~EB_PZ-140_012411~~	11		21		31	
2	EB_PZ-140_012411F	12		22		32	
3	EB_PZ-140_012411FMS	13		23		33	
4	EB_PZ-140_012411FMSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

DC #: 44464

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

ll circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
2		(Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn) Hg (Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B) Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
3,4		(Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn) Hg (Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B) Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B,

LDC #: 24929C4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW846 6010B/7000)

(Y) N N/A Were field blanks identified in this SDG?

(Y) N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/24/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: None

Analyte	Blank ID	Sample Identification										
	2	Action Level										
B	0.0038	0.019										
Na	0.17	0.85										
Tl	0.000022	0.00011										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 24, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11859-1

Sample Identification

HAR-05_012411_01
RD-11_012411_01
RD-11_012411_01A
RD-12_012411_01
EB_PZ-140_012411
RD-34C_012411_01
HAR-05_012411_01MS
HAR-05_012411_01MSD
HAR-05_012411_01DUP
RD-12_012411_01MS
RD-12_012411_01MSD
EB_PZ-140_012411MS
EB_PZ-140_012411MSD
EB_PZ-140_012411DUP

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphorus and Sulfate, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, 314.0 for Perchlorate and EPA Method SW 846 Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
EB_PZ-140_012411	Total Hexavalent chromium Dissolved Hexavalent chromium	32.25 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
EB_PZ-140_012411MS EB_PZ-140_012411MSD	Dissolved Hexavalent chromium	32.25 hours	24 hours	J (all detects) UJ (all non-detects)	P
EB_PZ-140_012411DUP	Total Hexavalent chromium	32.25 hours	24 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Continuing calibration data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0552 mg/L	HAR-05_012411_01 RD-11_012411_01 RD-12_012411_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-05_012411_01	Ammonia as N	0.058 mg/L	0.058U mg/L
RD-11_012411_01	Ammonia as N	0.15 mg/L	0.15U mg/L
RD-12_012411_01	Ammonia as N	0.086 mg/L	0.086U mg/L

Sample EB_PZ-140_012411 was identified as an equipment blank. No contaminant concentrations were found in this blank.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11859-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11859-1	EB_PZ-140_012411	Total Hexavalent chromium Dissolved Hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11859-1	HAR-05_012411_01 RD-11_012411_01 RD-11_012411_01A RD-12_012411_01 EB_PZ-140_012411 RD-34C_012411_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11859-1	HAR-05_012411_01	Ammonia as N	0.058U mg/L	A	B
280-11859-1	RD-11_012411_01	Ammonia as N	0.15U mg/L	A	B
280-11859-1	RD-12_012411_01	Ammonia as N	0.086U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

LDC #: 24929C6 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/16/11
SDG #: 280-11859-1 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: CR
2nd Reviewer: [illegible]

METHOD: (Analyte) Ammonia-N (EPA Method 350.1), Bromide, Chloride, Fluoride, Nitrate-N, Nitrite-N, Orthophosphate, Sulfate (EPA Method 300.0), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B),

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 11/29/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	ND	EB=5

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-05_012411_01	11	RD-12_012411_01MSD	21		31	
2	RD-11_012411_01	12	EB_PZ-140_012411MS	22		32	
3	RD-11_012411_01A	13	EB_PZ-140_012411MSD	23		33	
4	RD-12_012411_01	14	EB_PZ-140_012411DUP	24		34	
5	EB_PZ-140_012411	15		25		35	
6	RD-34C_012411_01	16		26		36	
7	HAR-05_012411_01MS	17		27		37	
8	HAR-05_012411_01MSD	18		28		38	
9	HAR-05_012411_01DUP	19		29		39	
10	RD-12_012411_01MS	20		30		40	

Notes: _____

LDC #: 24929C6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: MV

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,4		(pH) TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO_4)
2		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
3		(pH) TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
5		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4 BC (Diss. Cr^{6+})
6		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
7		pH TDS (Cl F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 BC
8		pH TDS (Cl F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 BC
9		(pH TDS Cl F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 BC
10		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
11		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
12		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4 (Diss. Cr^{6+})
13		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4 (Diss Cr^{6+})
14		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 24929C6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: CR
2nd reviewer: [signature]

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:		7196A					
Parameters:		Cr+6 (Total & Dissolved)					
Technical holding time:		24hrs					
Sample ID	**Sampling date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Qualifier**
* 5, 12-14	1/24/11 07:40	1/25/11 16:53	(32.25hrs)				J/UJ/P (H)
* 5= Total & Dissolved							
12, 13= Dissolved							
14= Total							

LDC #: 24929C6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: CR
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples:** 1, 2, 4 **Reason Code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		1	2	4								
NH3-N	0.0552		0.276	0.058	0.15	0.086								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	February 18, 2011
Matrix:	Water
Parameters:	Total Petroleum Hydrocarbons as Diesel
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11859-1

Sample Identification

HAR-05_012411_01
EB_PZ-140_012411

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Total Petroleum Hydrocarbons (TPH) as Diesel.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as diesel contaminants were found in the method blanks.

Sample EB_PZ-140_012411 was identified as an equipment blank. No total petroleum hydrocarbons as diesel contaminants were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11859-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11859-1	HAR-05_012411_01 EB_PZ-140_012411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Field Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

LDC #: 24929C8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11859-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MC
2nd Reviewer: [signature]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	EB = 2

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-05_012411_01	11	MB 280-50448/1-A	21		31	
2	EB_PZ-140_012411	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 24, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11859-1/A1A250439

Sample Identification

HAR-05_012411_01
RD-11_012411_01
RD-12_012411_01
EB_PZ-140_012411

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_PZ-140_012411 was identified as an equipment blank. No formaldehyde was found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11859-1/A1A250439	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11859-1/A1A250439

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11859-1/ A1A250439	HAR-05_012411_01 RD-11_012411_01 RD-12_012411_01 EB_PZ-140_012411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11859-1/A1A250439

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11859-1/A1A250439

No Sample Data Qualified in this SDG

LDC #: 24929C71 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11

SDG #: 280-11859-1/A1A250439 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: JVG

2nd Reviewer: [signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	EB = 4

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	HAR-05_012411_01	11	102625J-MB	21		31	
2	RD-11_012411_01	12		22		32	
3	RD-12_012411_01	13		23		33	
4	EB_PZ-140_012411	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	February 18, 2011
Matrix:	Water
Parameters:	Hydrazines
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11859-1

Sample Identification

HAR-05_012411_01
EB_PZ-140_012411

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

Sample EB_PZ-140_012411 was identified as an equipment blank. No hydrazines were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11859-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11859-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11859-1	HAR-05_012411_01 EB_PZ-140_012411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11859-1

No Sample Data Qualified in this SDG

LDC #: 24929C76 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11859-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: DVL
2nd Reviewer:

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	EB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	HAR-05_012411_01	11	MB 280-50859/25	21		31	
2	EB_PZ-140_012411	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24929 C76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JM
2nd reviewer: JM

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
2		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	March 3, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11864-1/H1A260453

Sample Identification

EB_PZ-140_012411

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks

Sample EB_PZ-140_012411 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11864-1/H1A260453	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-11864-1/H1A260453

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11864-1/ H1A260453	EB_PZ-140_012411	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-11864-1/H1A260453

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-11864-1/H1A260453

No Sample Data Qualified in this SDG

LDC #: 24929D21 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-11864-1/H1A260453 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: VV
2nd Reviewer: V

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	MD	EB = 1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	EB_PZ-140_012411	11		21		31	
2	102759-MB	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 16, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24941:

SDG #	Fraction
280-11787-1/A1A210490/IUA2059 280-11825-2	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Metals, Wet Chemistry, Diesel Range Organics, Formaldehyde, Hydrazine

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

Pei Geng
Project Manager/Senior Chemist

Client Select IV

LDC #24941 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B)		1,2,3-TCP (524.2)		SVOA (8270C)		NDMA (1625)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)											
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11787-1/A1A210490/IUA2059	02/16/11	03/10/11	12	0	12	0	2	0	7	0	8	0	3	0	3	0	4	0	8	0	5	0	1	0	1	0								
A	280-11787-1/A1A210490/IUA2059	02/16/11	03/10/11	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
B	280-11825-2	02/16/11	03/10/11	-	-	-	-	-	-	-	-	15	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
Total	A/PG			12	0	12	0	2	0	11	0	23	0	3	0	3	0	4	0	8	0	5	0	1	0	1	0	0	0	0	0	0	0	0	85

Client Select IV

LDC #24941 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.1)		Cl SO_4 (300.0)		F NO_3-N (300.0)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)																	
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11787-1	02/16/11	03/10/11	3	0	8	0	3	0	8	0	3	0	8	0	6	0	3	0	3	0																
Total	A/PG			3	0	8	0	3	0	8	0	3	0	8	0	6	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 18, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-1

Sample Identification

HAR-26_012011_01
SH-09_012011_01
TB_SH-09_012011_01
SH-11_012011_01
HAR-23_012011_01
TB_HAR-23_012011_01
PZ-077_012011_01
HAR-11_012011_01
TB_HAR-11_012011
HAR-19_012011_01
HAR-19_012011_36
HAR-20_012011_01
HAR-19_012011_01MS
HAR-19_012011_01MSD

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Analysis	Required Holding Time (in Days) From Sample Collection Until Analysis	Flag	A or P
TB_HAR-11_012011	Benzene Ethylbenzene m,p-Xylenes o-Xylene Toluene	11	7	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_SH-09_012011_01, TB_HAR-23_012011_01 and TB_HAR-11_012011 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_SH-09_012011_01	1/20/11	Methylene chloride	0.71 ug/L	SH-09_012011_01 SH-11_012011_01
TB_HAR-23_012011_01	1/20/11	Methylene chloride	0.56 ug/L	HAR-23_012011_01
TB_HAR-11_012011	1/20/11	Methylene chloride	0.64 ug/L	HAR-11_012011_01 HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01

Sample EB_RD-67_011311 (from SDG 280-11605-1) was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_RD-67_011311	1/13/11	Chloroform	5.8 ug/L	SH-09_012011_01 SH-11_012011_01 PZ-077_012011_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform	2.5 ug/L	SH-09_012011_01 SH-11_012011_01 PZ-077_012011_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
SH-11_012011_01	Toluene-d8	122 (88-110)	All TCL compounds	J (all detects)	P
TB_HAR-23_012011_01	Toluene-d8	125 (88-110)	All TCL compounds	J (all detects)	P
HAR-19_012011_36 (1x)	Toluene-d8	123 (88-110)	All TCL compounds except cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene	J (all detects)	A
HAR-19_012011_36 (4x)	Toluene-d8	123 (88-110)	cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene	J (all detects) J (all detects) J (all detects)	A
HAR-20_012011_01	Toluene-d8	125 (88-110)	All TCL compounds	J (all detects)	P
MB 280-51067/5	Toluene-d8	125 (88-110)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11787-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-19_012011_01 and HAR-19_012011_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-19_012011_01	HAR-19_012011_36	
1,1-Dichloroethene	0.39	0.37	5 (≤35)
Vinyl chloride	10	13	26 (≤35)
cis-1,2-Dichloroethene	130	130	0 (≤35)
trans-1,2-Dichloroethene	120	130	8 (≤35)
Trichloroethene	63	60	5 (≤35)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11787-1	TB_HAR-11_012011	Benzene Ethylbenzene m,p-Xylenes o-Xylene Toluene	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11787-1	SH-11_012011_01 TB_HAR-23_012011_01 HAR-20_012011_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-11787-1	HAR-19_012011_36 (1x)	All TCL compounds except cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene	J (all detects)	A	Surrogate spikes (%R) (S)
280-11787-1	HAR-19_012011_36 (4x)	cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene	J (all detects) J (all detects) J (all detects)	A	Surrogate spikes (%R) (S)
280-11787-1	HAR-26_012011_01 SH-09_012011_01 TB_SH-09_012011_01 SH-11_012011_01 HAR-23_012011_01 TB_HAR-23_012011_01 PZ-077_012011_01 HAR-11_012011_01 TB_HAR-11_012011 HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

LDC #: 24941A1a
SDG #: 280-11787-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 2/17/11
Page: 1 of 1
Reviewer: AW
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 10, 11
XVII.	Field blanks	SW	TB = 3, 6, 9 EB = EB_RD_62_011311 (from 280-11605-1) FB = FB_011411_19 (from 280-11628-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-26_012011_01	11	HAR-19_012011_36 D	21 IX, 4X	MB 280-51067/5	31
2	SH-09_012011_01	12	HAR-20_012011_01	22 X	MB 280-51299/6	32
3	TB_SH-09_012011_01	13	HAR-19_012011_01MS	23		33
4	SH-11_012011_01	14	HAR-19_012011_01MSD	24		34
5	HAR-23_012011_01	15		25		35
6	TB_HAR-23_012011_01	16		26		36
7	PZ-077_012011_01	17		27		37
8	HAR-11_012011_01	18		28		38
9	TB_HAR-11_012011	19		29		39
10	HAR-19_012011_01 D	20		30		40

IX, 4X

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24941 A1K
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

~~All~~ circled dates have exceeded the technical holding times.
(Y) N N/A Were all cooler temperatures within validation criteria?

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Sample ID	Matrix	Preserved	Sampling Date	Extraction date	Analysis date	Total # of Days	Qualifier
9	W	N	1/20/11	—	1/31/11	11	J/UJ/P (H,
		pH=7				Cfm2	V, EE, RRR,
							SSS, CC only)

TECHNICAL HOLDING TIME CRITERIA

Water unpreserved:	Aromatic within 7 days, non-aromatic within 14 days of sample collection.
Water preserved:	Both within 14 days of sample collection.
Soil:	Both within 14 days of sample collection.

LDC #: 29941A1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 2, 4, 7

(from 280-11638-1) Compound	FB_011411_19 Blank ID	EB_RD-07_011311 Blank ID (from 280-11605-1)		Sample Identification						
Sampling Date	1/14/11	1/13/11		2						
Methylene chloride K	2.5	5.8		(31)						
~~Acetone~~ EF	~~0.40~~									
Chloroform										
CRQL										

29

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 2, 4 (MD)

Compound	Blank ID 3	Blank ID		Sample Identification						
Sampling Date	1/20/11									
Methylene chloride (E)	0.71									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24941 A1K

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 5 (ND)

Compound	Blank ID 6	Blank ID	Sample Identification								
Sampling Date	1/20/11										
Methylene chloride (E)	0.56										
Acetone											
Chloroform											
CRQL											

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 8, 10-12 (ND)

Compound	Blank ID 9	Blank ID	Sample Identification								
Sampling Date	1/20/11										
Methylene chloride (E)	0.64										
Acetone											
Chloroform											
CRQL											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24991 A1a

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: NG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		4	TOL	122 (88-110)	J dets /p (S)
		6		125 ( )	↓
		11 (1x)		123 ( )	J dets /A (all except below)
		11 (4x)		123 ( )	↓ (QBB, PPP, Sonly)
		12		125 ( )	J dets /p
		MB 280-51067/5	↓	125 ( )	↓

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC #: 24941 A1A

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: VB
2nd Reviewer:

METHOD : GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	13/14	QQQ	63 (75-120)	139 (75-130)	( )	10	No qual
		PPP	72 (80-120)	( )	( )	↓	↓
			( )	( )	( )		(parent conc 74% spike amt)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	< 22%	61-145%	< 14%
S.	Trichloroethene	62-137%	< 24%	71-120%	< 14%
V.	Benzene	66-142%	< 21%	76-127%	< 11%
CC.	Toluene	59-139%	< 21%	76-125%	< 13%
DD.	Chlorobenzene	60-133%	< 21%	75-130%	< 13%

LDC#:24941A1a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVe
2nd Reviewer:

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent Only)
	10	11		
1,1-Dichloroethene	0.39	0.37	5	
Vinyl chloride	10	13	26	
cis-1,2-Dichloroethene	130	130	0	
trans-1,2-Dichloroethene	120	130	8	
Trichloroethene	63	60	5	

V:\FIELD DUPLICATES\24941A1a.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 22, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-1

Sample Identification

HAR-26_012011_01
SH-09_012011_01
TB_SH-09_012011_01
SH-11_012011_01
HAR-23_012011_01
TB_HAR-23_012011_01
PZ-077_012011_01
HAR-11_012011_01
TB_HAR-11_012011
HAR-19_012011_01
HAR-19_012011_36
HAR-20_012011_01
SH-09_012011_01MS
SH-09_012011_01MSD

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_SH-09_012011_01, TB_HAR-23_012011_01, and TB_HAR-11_012011 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Sample EB_RD-67_011311 (from SDG 280-11605-1) was identified as an equipment blank. No 1,4-Dioxane was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11787-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-19_012011_01 and HAR-19_012011_36 were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11787-1	HAR-26_012011_01 SH-09_012011_01 TB_SH-09_012011_01 SH-11_012011_01 HAR-23_012011_01 TB_HAR-23_012011_01 PZ-077_012011_01 HAR-11_012011_01 TB_HAR-11_012011 HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

LDC #: 24941A1b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11787-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 10, 11
XVII.	Field blanks	ND	FB = 3, 6, 9 EB = EB_RD-67_011311 (from 280-11605-1) FB = FB_011411_19 (from 280-11628-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1 HAR-26_012011_01	11 HAR-19_012011_36 D	21	MB 280-50430/5	31		
2 SH-09_012011_01	12 HAR-20_012011_01	22	MB 280-50686/5	32		
3 TB_SH-09_012011_01	13 SH-09_012011_01MS	23		33		
4 SH-11_012011_01	14 SH-09_012011_01MSD	24		34		
5 HAR-23_012011_01	15	25		35		
6 TB_HAR-23_012011_01	16	26		36		
7 PZ-077_012011_01	17	27		37		
8 HAR-11_012011_01	18	28		38		
9 TB_HAR-11_012011	19	29		39		
10 HAR-19_012011_01 D	20	30		40		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 23, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level IV & V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-1

Sample Identification

HAR-26_012011_01
SH-09_012011_01
EB_SH-11_012011**
SH-11_012011_01**
SH-11_012011_36**
FB_SH-11_012011_19**
HAR-23_012011_01
HAR-11_012011_01
HAR-19_012011_01
HAR-19_012011_36
HAR-20_012011_01

**Indicates sample underwent Level IV review

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Samples indicated by a double asterisk on the front cover underwent a Level IV review. A Level V review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level V criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent difference (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_SH-11_012011** was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Samples FB_SH-11_012011_19** and FB-011401_19 (from SDG 280-11638-1) were identified as field blanks. No semivolatile contaminants were found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits for samples on which a Level IV review was performed. Internal standards were not evaluated for the samples reviewed by Level V criteria.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a Level IV review was performed.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11787-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level V criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-11_012011_01** and SH-11_012011_36** and samples HAR-19_012011_01 and HAR-19_012011_36 were identified as field duplicate samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-11_012011_01**	SH-11_012011_36**			
Bis(2-ethylhexyl)phthalate	0.86	1.1	24 (≤35)	-	-

Samples SH-11_012011_01** and SH-11_012011_03 (from SDG IUA2025) identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-11_012011_01**	SH-11_012011_03			
Bis(2-ethylhexyl)phthalate	0.86	19U	183 (≤35)	NQ	-
Diethyl phthalate	9.8U	0.26	190 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11787-1	HAR-26_012011_01 SH-09_012011_01 EB_SH-11_012011** SH-11_012011_01** SH-11_012011_36** FB_SH-11_012011_19** HAR-23_012011_01 HAR-11_012011_01 HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

LDC #: 24941A2a **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11787-1 Level V / IV Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: LC

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
II.	GC/MS Instrument performance check	~~N~~ A	
III.	Initial calibration	~~N~~ A	% RSD ≤ 30 %
IV.	Continuing calibration/ICV	~~N~~ A	CCV/ICV ≤ 25 %
V.	Blanks	A	
VI.	Surrogate spikes	A	Only acid surr mt, no acid cpds reported)
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	~~N~~ A	
XII.	Compound quantitation/CRQLs	~~N~~ A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	~~N~~ A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / split	SW	D1 = 4, 5 *D2 = 9, 10 S = 4+SK-11_012011 (from IN A2)
XVII.	Field blanks	ND	EB = 3 FB = 6 FB-011401_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:
Level IV ** Water

1	HAR-26_012011_01	11	HAR-20_012011_01	21	MB 280-50533/A	31	
2	SH-09_012011_01	12		22		32	
3	EB_SH-11_012011 **	13		23		33	
4	SH-11_012011_01 ** D1	14		24		34	
5	SH-11_012011_36 ** D1	15		25		35	
6	FB_SH-11_012011_19 **	16		26		36	
7	HAR-23_012011_01	17		27		37	
8	HAR-11_012011_01	18		28		38	
9	HAR-19_012011_01	19		29		39	
10	HAR-19_012011_36	20		30		40	

A + NB = 1, 2,
phthalates = 3, 5, 6
phthalates + A + NB = 4
NB = 7-11

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 24991 A 2K

VALIDATION FINDINGS CHECKLIST

Reviewer: JVC
2nd Reviewer: [illegible]

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within + 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC#:24941A2a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: 9A
2nd Reviewer:

METHOD: GC MS SemivVolatiles (EPA SW 846 Method 8270C)

Y/N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent Only)
	4	5		
Bis(2-ethylhexyl)phthalate	0.86	1.1	24	

V:\FIELD DUPLICATES\24941A2a.wpd

LDC#:24941A2a

VALIDATION FINDINGS WORKSHEET
Field Split

Reviewer: JM
2nd Reviewer:

METHOD: GC MS SemivVolatiles (EPA SW 846 Method 8270C)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	4	(from 1UA 2025) SH-11_012011_03	RPD	(Parent Only)
Bis(2-ethylhexyl)phthalate	0.86	19U	183	NQ
Diethyl phthalate	9.8U	0.26	190	NQ

LDC #: 29952A2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	1/20/2011	No cpds reported (IS1)						
	MSS D		Nitrobenzene (IS2)	0.4640	0.4640	0.4904	0.4904	5.2	5.19
			Diethyl phthalate (IS3)	1.2046	1.2046	1.2963	1.2963	8.2	8.24
			Di-n-butyl phthalate (IS4)	1.1671	1.1671	1.2294	1.2294	10.5	10.54
			Bis(2-eh)phthalate (IS5)	0.6137	0.6137	0.6429	0.6429	9.6	9.55
			No cpds reported (IS6)						

)nc IS/Cpd	Area cpd	Area IS
40/50	468126	807028
40/50	861341	572026
40/50	1583790	1085604
40/50	897382	1169860

Conc		Nitrobenzene	Diethyl phthalate	Di-n-butyl phth	bis(2eh)phtha	
4.00			1.2226	1.0648	0.6097	
10.00		0.4532	1.1819	1.0852	0.5410	
20.00		0.5282	1.1934	1.1491	0.6049	
50.00		0.4640	1.2046	1.1671	0.6137	
80.00		0.5026	1.3264	1.2924	0.6735	
120.00		0.4856	1.4035	1.3681	0.7345	
160.00		0.5040	1.4197	1.4043	0.6752	
200.00		0.4949	1.4179	1.3044	0.6903	
X =	#DIV/0!	0.4904	1.2963	1.2294	0.6429	0.0000
S =	#DIV/0!	0.0255	0.1069	0.1296	0.0614	#DIV/0!

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 24952 A2a

VALIDATION FINDINGS WORSHEET
Continuing Calibration Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	D1675	01/31/11	No cpds reported (IS1)					
			Nitrobenzene (IS2)	0.4904	0.4425	0.4425	9.8	9.8
			Diethyl phthalate (IS3)	1.2963	1.2368	1.2368	4.6	4.6
			Di-n-butyl phthalate (IS4)	1.2294	1.2660	1.2660	3.0	3.0
			Bis(2-eh)phthalate (IS5)	0.6429	0.6834	0.6834	6.3	6.3
			No cpds reported (IS6)					

Compound (IS)	Concentration (IS/Cpd)	Area Cpd	Area IS	Area Cpd	Area IS
No cpds reported (IS1)					
Nitrobenzene (IS2)	40/80	744532	841242		
Diethyl phthalate (IS3)	40/80	1450998	586588		
Di-n-butyl phthalate (IS4)	40/80	2403050	949050		
Bis(2-eh)phthalate (IS5)	40/80	1598675	1169728		
No cpds reported (IS6)					

LDC #: 24981 A2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: MK
2nd reviewer: V

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #3

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	70.7	71	71	0
2-Fluorobiphenyl		61.8	62	62	
Terphenyl-d14		87.8	88	88	
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 24941 A 2a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS 280-50533/2,3-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
~~Phenol~~ EEE	80.0	80.0	68.1	63.1	85	85	79	79	8	8
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 24941 A2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JR
2nd reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_t = Volume of the concentrated extract in microliters (ul)

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. # 4 . EEE

Conc. = $\frac{(15740)(40)(1\,ml)(1\,mm)(\quad)}{(111\,3238)(0.6429)(1025.2\,ul)(\quad)}$

= 0.858

≈ 0.86 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 22, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-1

Sample Identification

HAR-26_012011_01
SH-09_012011_01
SH-11_012011_01
HAR-23_012011_01
HAR-11_012011_01
HAR-19_012011_01
HAR-19_012011_36
HAR-20_012011_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples FB_011411_19 (from SDG 280-11638-1), FB_SH-09_012011_19 (from SDG 280-11787-2) and FB_HAR-23_012011_19 (from SDG 280-11787-2) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

Sample EB_SH-09_012011_19 (from SDG 280-11787-2) was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11787-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-19_012011_01 and HAR-19_012011_36, samples SH-09_012011_01 and SH-11_012011_36 (from SDG 280-11787-2) and samples HAR-23_012011_01 and HAR-23_012011_36 (from SDG 280-11787-2) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	SH-09_012011_01	SH-09_012011_36	
N-Nitrosodimethylamine	0.0064	0.0080	22 (≤35)

Compound	Concentration (ug/L)		RPD (Limits)
	HAR-23_012011_01	HAR-23_012011_36	
N-Nitrosodimethylamine	0.028	0.029	4 (≤35)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11787-1	HAR-26_012011_01 SH-09_012011_01 SH-11_012011_01 HAR-23_012011_01 HAR-11_012011_01 HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

LDC #: 24941A2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11787-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_1 = 6.7 (Please see below)
XVII.	Field blanks	ND	FB = FB_011911_J9 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

EB = EB_SH-09_012011_ (from 280-11787-1)
FB = FB-SH-09_012011-19
↓ = FB-HAR-23_012011_J9

Validated Samples: Water

1	HAR-26_012011_01	11	MB 280-50835/1-A	21		31	D_2 = 2 + SH-09_012011_36
2	SH-09_012011_01 D_2	12		22		32	D_3 = 4 + HAR-23_012011_36
3	SH-11_012011_01	13		23		33	(both from 280-11787-1)
4	HAR-23_012011_01 D_3	14		24		34	
5	HAR-11_012011_01	15		25		35	
6	HAR-19_012011_01 D_1	16		26		36	
7	HAR-19_012011_36 D_1	17		27		37	
8	HAR-20_012011_01	18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:24941A2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JW
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	SH-09_012011_01	SH-09_012011_36		
NDMA	0.0064	0.0080	22	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-23_012011_01	HAR-23_012011_36		
NDMA	0.028	0.029	4	

V:\FIELD DUPLICATES\24941A2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 22, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-1

Sample Identification

SH-09_012011_01
HAR-19_012011_01
HAR-19_012011_36
SH-09_012011_01F
HAR-19_012011_01F
HAR-19_012011_36F
SH-09_012011_01MS
SH-09_012011_01MSD
HAR-17_012011_01MS
HAR-17_012011_01MSD
SH-09_012011_01FMS
SH-09_012011_01FMSD
HAR-17_012011_01FMS
HAR-17_012011_01FMSD
HAR-17_012011_01
HAR-17_012011_01F

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 16 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese Sodium	0.000820 mg/L 0.135 mg/L	SH-09_012011_01 HAR-19_012011_01 HAR-19_012011_36 HAR-17_012011_01
PB (prep blank)	Sodium	0.0219 mg/L	SH-09_012011_01F HAR-19_012011_01F HAR-19_012011_36F HAR-17_012011_01F
PB (prep blank)	Tin	0.000180 mg/L	HAR-17_012011_01
PB (prep blank)	Cobalt	0.0000132 mg/L	HAR-17_012011_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-17_012011_01	Tin	0.00043 mg/L	0.00043U mg/L

Samples EB-PZ-041_011311 and EB-PZ-041_011311F (from SDG 280-11605-1) were identified as equipment blanks. No metal contaminants were found in these blanks.

Samples FB_011411_19 and FB_011411_19F (from SDG 280-11638-1) were identified as field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Calcium Manganese Sodium	0.048 mg/L 0.00030 mg/L 0.097 mg/L	SH-09_012011_01
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	SH-09_012011_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11787-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-19_012011_01 and HAR-19_012011_36 and samples HAR-19_012011_01F and HAR-19_012011_36F were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-19_012011_01	HAR-19_012011_36			
Calcium	170	170	0 (≤35)	-	-
Magnesium	18	19	5 (≤35)	-	-
Manganese	0.25	0.25	0 (≤35)	-	-
Potassium	5.1	5.2	2 (≤35)	-	-
Sodium	150	150	0 (≤35)	-	-
Strontium	0.57	0.57	0 (≤35)	-	-
Zinc	0.068	0.067	1 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-19_012011_01F	HAR-19_012011_36F			
Calcium	160	160	0 (≤35)	-	-
Magnesium	18	18	0 (≤35)	-	-
Manganese	0.23	0.23	0 (≤35)	-	-
Potassium	4.9	4.9	0 (≤35)	-	-
Sodium	150	150	0 (≤35)	-	-
Strontium	0.52	0.52	0 (≤35)	-	-
Zinc	0.065	0.066	2 (≤35)	-	-

Samples HAR-17_012011_01 and HAR-17_012011_03 (from SDG IUA2025) and samples HAR-17_012011_01F and HAR-17_012011_03F (from SDG IUA2025) were identified as split duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-17_012011_03	HAR-17_012011_01			
Antimony	0.00031	0.00017	58 (≤35)	NQ	-
Arsenic	0.0016	0.0012	29 (≤35)	-	-
Barium	0.11	0.097	13 (≤35)	-	-
Cadmium	0.00015	0.00015	0 (≤35)	-	-
Calcium	160	160	0 (≤35)	-	-
Chromium	0.0045	0.0038	17 (≤35)	-	-
Cobalt	0.00070	0.00062	12 (≤35)	-	-
Copper	0.038	0.023	49 (≤35)	J (all detects)	A
Iron	19	11	53 (≤35)	J (all detects)	A
Lead	0.0062	0.0057	8 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-17_012011_03	HAR-17_012011_01			
Magnesium	30	29	3 (≤35)	-	-
Manganese	0.75	0.52	36 (≤35)	J (all detects)	A
Nickel	0.0045	0.0065	36 (≤35)	NQ	-
Potassium	2.8	2.6	7 (≤35)	-	-
Selenium	0.0031	0.0024	25 (≤35)	-	-
Silver	0.00010U	0.000016	145 (≤35)	NQ	-
Sodium	100	120	18 (≤35)	-	-
Thallium	0.00020U	0.000067	100 (≤35)	NQ	-
Tin	0.0050U	0.00043	168 (≤35)	NQ	-
Vanadium	0.0029	0.0023	23 (≤35)	-	-
Zinc	1.0	1.0	0 (≤35)	-	-
Strontium	0.80	0.83	4 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-17_012011_03F	HAR-17_012011_01F			
Antimony	0.00030U	0.00014	73 (≤35)	NQ	-
Arsenic	0.00090U	0.00056	47 (≤35)	NQ	-
Barium	0.073	0.067	9 (≤35)	-	-
Cadmium	0.00010U	0.00011	10 (≤35)	-	-
Calcium	170	150	13 (≤35)	-	-
Chromium	0.0034	0.0027	23 (≤35)	-	-
Cobalt	0.00057	0.00062	8 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-17_012011_03F	HAR-17_012011_01F			
Copper	0.0085	0.010	16 (≤35)	-	-
Iron	0.036	0.042	15 (≤35)	-	-
Lead	0.00023	0.00039	52 (≤35)	NQ	-
Magnesium	31	28	10 (≤35)	-	-
Manganese	0.037	0.033	11 (≤35)	-	-
Nickel	0.012	0.013	8 (≤35)	-	-
Potassium	2.5	2.5	0 (≤35)	-	-
Selenium	0.0025	0.0042	51 (≤35)	NQ	-
Silver	0.00010U	0.000022	128 (≤35)	NQ	-
Sodium	120	110	9 (≤35)	-	-
Thallium	0.00020U	0.000050	120 (≤35)	NQ	-
Tin	0.0050U	0.00018	186 (≤35)	NQ	-
Vanadium	0.00080U	0.00022	114 (≤35)	NQ	-
Zinc	0.37	0.44	17 (≤35)	-	-
Strontium	0.86	0.74	15 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11787-1	SH-09_012011_01 HAR-19_012011_01 HAR-19_012011_36 SH-09_012011_01F HAR-19_012011_01F HAR-19_012011_36F HAR-17_012011_01 HAR-17_012011_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)
280-11787-1	HAR-17_012011_01	Copper Iron Manganese	J (all detects) J (all detects) J (all detects)	A	Split duplicates (RPD) (*XIV)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11787-1	HAR-17_012011_01	Tin	0.00043U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

LDC #: 24941A4 **VALIDATION COMPLETENESS WORKSHEET** Date: 2-17-11
SDG #: 280-11787-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: W

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/P
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates / Splitdups	SW	(2,3), (5,6) *see below for splitdups
XV	Field Blanks	SW	FB= ~~FB-SH-09~~ or FB_011411_19, FB_011411_19F (280-11638 **EB = EB-PZ-041_011311, EB-PZ-041_011311F (280-11605-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	SH-09_012011_01	11	SH-09_012011_01FMS	21		31	
2	HAR-19_012011_01	12	SH-09_012011_01FMSD	22		32	
3	HAR-19_012011_36	13	HAR-17_012011_01FMS	23		33	
4	SH-09_012011_01F	14	HAR-17_012011_01FMSD	24		34	
5	HAR-19_012011_01F	15	HAR-17_012011_01	25		35	
6	HAR-19_012011_36F	16	↓ F	26		36	
7	SH-09_012011_01MS	17		27		37	
8	SH-09_012011_01MSD	18		28		38	
9	HAR-17_012011_01MS	19		29		39	
10	HAR-17_012011_01MSD	20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals
* Splitdups = (15, HAR-17-012011_03) (16, HAR-17-012011_03F) (SOG: IUA 2025)

DC #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-6		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SC)
0		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
15,16		Al, (Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn,) Mo, B, Si, CN; (SO)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
DC: 7,8,11,12		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SC)
9,10,13,14		Al, (Sb, As, Ba, Be, Cd,) Ca, Cr, Co, Cu, Fe, (Pb,) Mg, Mn, (Hg, Ni) K, (Se, Ag,) Na, (Tl, V, Zn,) Mo, B, Si, CN; (SO)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

LDC #: 24941A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: CR
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1-3, 15 Reason Code: B

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
Mn		0.000820		0.0041										
Na		0.135		0.675										

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 4-6, 16

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
Na		0.219		1.095										

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 15

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	15									
Sn		0.000180		0.0009	0.00043									

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 16

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
Co		0.0000132		0.000066										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24941A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CC
2nd Reviewer: LW

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 1

Analyte	Blank ID	Sample Identification										
	FB_011411_19 (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.048	0.24										
Mn	0.00030	0.002										
Na	0.097	0.485										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24941A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 4

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 24941A4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	2	3		
Calcium	170	170	0	
Magnesium	18	19	5	
Manganese	0.25	0.25	0	
Potassium	5.1	5.2	2	
Sodium	150	150	0	
Strontium	0.57	0.57	0	
Zinc	0.068	0.067	1	

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Analyte	Concentration (mg/L)		RPD (≤35)	
	5	6		
Calcium	160	160	0	
Magnesium	18	18	0	
Manganese	0.23	0.23	0	
Potassium	4.9	4.9	0	
Sodium	150	150	0	
Strontium	0.52	0.52	0	
Zinc	0.065	0.066	2	

LDC#: 24941C4

VALIDATION FINDINGS WORKSHEET
Split Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	Qualifiers: (Parents Only)
	HAR-17_012011_03	15		
Antimony	0.00031	0.00017	58	NQ (<5x RL)
Arsenic	0.0016	0.0012	29	
Barium	0.11	0.097	13	
Cadmium	0.00015	0.00015	0	
Calcium	160	160	0	
Chromium	0.0045	0.0038	17	
Cobalt	0.00070	0.00062	12	
Copper	0.038	0.023	49	Jdet/A (*XIV)
Iron	19	11	53	Jdet/A (*XIV)
Lead	0.0062	0.0057	8	
Magnesium	30	29	3	
Manganese	0.75	0.52	36	Jdet/A (*XIV)
Nickel	0.0045	0.0065	36	NQ (<5x RL)
Potassium	2.8	2.6	7	
Selenium	0.0031	0.0024	25	
Silver	0.00010U	0.000016	145	NQ (<5x RL)
Sodium	100	120	18	
Thallium	0.00020U	0.000067	100	NQ (<5x RL)
Tin	0.0050U	0.00043	168	NQ (<5x RL)

LDC#: 24941C4

VALIDATION FINDINGS WORKSHEET
Split Duplicates

Reviewer: JC
2nd Reviewer: VC

METHOD: Metals (EPA Method 6010B/7000)

Y/N NA Were field duplicate pairs identified in this SDG?
Y/N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	Qualifiers: (Parents Only)
	HAR-17_012011_03	15		
Vanadium	0.0029	0.0023	23	
Zinc	1.0	1.0	0	
Strontium	0.80	0.83	4	

V:\FIELD DUPLICATES\FD_inorganic\24941C4a.wpd

Analyte	Concentration (mg/L)		RPD (≤35)	Qualifiers: (Parents Only)
	HAR-17_012011_03F	16		
Antimony	0.00030U	0.00014	73	NQ (<5x RL)
Arsenic	0.00090U	0.00056	47	NQ (<5x RL)
Barium	0.073	0.067	9	
Cadmium	0.00010U	0.00011	10	
Calcium	170	150	13	
Chromium	0.0034	0.0027	23	
Cobalt	0.00057	0.00062	8	
Copper	0.0085	0.010	16	
Iron	0.036	0.042	15	
Lead	0.00023	0.00039	52	NQ (<5x RL)
Magnesium	31	28	10	
Manganese	0.037	0.033	11	
Nickel	0.012	0.013	8	

LDC#: 24941C4

VALIDATION FINDINGS WORKSHEET
Split Duplicates

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	Qualifiers: (Parents Only)
	HAR-17_012011_03F	16		
Potassium	2.5	2.5	0	
Selenium	0.0025	0.0042	51	NQ (<5x RL)
Silver	0.00010U	0.000022	128	NQ (<5x RL)
Sodium	120	110	9	
Thallium	0.00020U	0.000050	120	NQ (<5x RL)
Tin	0.0050U	0.00018	186	NQ (<5x RL)
Vanadium	0.00080U	0.00022	114	NQ (<5x RL)
Zinc	0.37	0.44	17	
Strontium	0.86	0.74	15	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 20, 2011
LDC Report Date:	February 22, 2011
Matrix:	Water
Parameters:	Total Petroleum Hydrocarbons as Diesel
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11787-1

Sample Identification

HAR-11_012011_01
HAR-19_012011_01
HAR-19_012011_36
HAR-20_012011_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Total Petroleum Hydrocarbons (TPH) as Diesel.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as diesel contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11787-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-19_012011_01 and HAR-19_012011_36 were identified as field duplicates. No total petroleum hydrocarbons as diesel were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Difference (Limits)	Flags	A or P
	HAR-19_012011_01	HAR-19_012011_36				
C15-C20	0.045	0.048	6 (≤35)	-	-	-
C8-C30	0.086	0.25U	98 (≤35)	-	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11787-1	HAR-11_012011_01 HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Laboratory Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Field Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

LDC #: 24941A8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11787-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D = 2, 3
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	HAR-11_012011_01	11	MB 280-49905/1-A	21		31	
2	HAR-19_012011_01 D	12		22		32	
3	HAR-19_012011_36 D	13		23		33	
4	HAR-20_012011_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC#:24941A8

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVL
2nd Reviewer:

METHOD: GC DRO (Oklahoma DEQ)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/L)		(≤35)	Qualifications
	2	3	RPD	(Parent Only)
C15-C20	0.045	0.048	6	
C8-C30	0.086	0.25U	98	NQ (<5xRL)

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 22, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-1/A1A210490

Sample Identification

HAR-26_012011_01
SH-09_012011_01
SH-11_012011_01
HAR-23_012011_01
HAR-11_012011_01
HAR-19_012011_01
HAR-19_012011_36
HAR-20_012011_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_SH-04_020311 (from SDG 280-12215) was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No formaldehyde was found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Formaldehyde	21	SH-09_012011_01 SH-11_012011_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-11787-1/A1A210490	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples HAR-19_012011_01 and HAR-19_012011_36 were identified as field duplicates. No formaldehyde was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11787-1/A1A210490

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11787-1/ A1A210490	HAR-26_012011_01 SH-09_012011_01 SH-11_012011_01 HAR-23_012011_01 HAR-11_012011_01 HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11787-1/A1A210490

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11787-1/A1A210490

No Sample Data Qualified in this SDG

LDC #: 24941A71 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11

SDG #: 280-11787-1/A1A210490 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: JVle

2nd Reviewer: [illegible]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 6,7
X.	Field blanks	SW	FB = FB_011411_19 (from 280-11638-1) * EB = EB_SH-04_020311_01 (from 280_12215)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
* ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	HAR-26_012011_01	11	10 22010 - MB	21		31	
2	SH-09_012011_01	12		22		32	
3	SH-11_012011_01	13		23		33	
4	HAR-23_012011_01	14		24		34	
5	HAR-11_012011_01	15		25		35	
6	HAR-19_012011_01 D	16		26		36	
7	HAR-19_012011_36 D	17		27		37	
8	HAR-20_012011_01	18		28		38	
9	~~HAR-20_012011_01MS~~	19		29		39	
10	~~HAR-20_012011_01MSD~~	20		30		40	

Notes:

LDC #: 24941 A71

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: SVG
2nd Reviewer: _____

METHOD: __ GC __/ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: _____
Associated Samples: 2, 3 (ND)

Compound	Blank ID	Blank ID	Sample Identification							
	FB_011411_19									
Formaldehyde	21									
CRQL										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: _____
Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 22, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-1

Sample Identification

HAR-26_012011_01
HAR-26_012011_01A
SH-09_012011_01
SH-09_012011_01A
SH-11_012011_01
HAR-23_012011_01
HAR-11_012011_01
HAR-11_012011_01A
HAR-19_012011_01
HAR-19_012011_36
HAR-20_012011_01
HAR-20_012011_01A
HAR-26_012011_01AMS
HAR-26_012011_01AMSD
SH-09_012011_01ADUP
HAR-19_012011_01DUP
HAR-19_012011_36MS
HAR-19_012011_36MSD
HAR-19_012011_36DUP
HAR-26_012011_01ADUP

Introduction

This data review covers 20 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, Standard Method 2510B for Conductivity, EPA Method 300.0 for Chloride, Fluoride, Nitrate, and Sulfate, EPA Method 314.0 for Perchlorate, EPA Method 9040B for pH, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
HAR-26_012011_01A	pH	50.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
SH-09_012011_01A	pH	48.75 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-23_012011_01	pH	50.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-19_012011_01	pH	48.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-19_012011_36	pH	48.5 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0627 mg/L	HAR-26_012011_01 SH-09_012011_01 SH-11_012011_01 HAR-23_012011_01
PB (prep blank)	Ammonia as N	0.0552 mg/L	HAR-11_012011_01 HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-26_012011_01	Ammonia as N	0.069 mg/L	0.069U mg/L
SH-09_012011_01	Ammonia as N	0.083 mg/L	0.083U mg/L
SH-11_012011_01	Ammonia as N	0.12 mg/L	0.12U mg/L
HAR-11_012011_01	Ammonia as N	0.10 mg/L	0.10U mg/L
HAR-19_012011_01	Ammonia as N	0.076 mg/L	0.076U mg/L
HAR-19_012011_36	Ammonia as N	0.065 mg/L	0.065U mg/L
HAR-20_012011_01	Ammonia as N	0.073 mg/L	0.073U mg/L

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Sulfate	0.37 mg/L	SH-09_012011_01A
FB_011411_19	1/14/11	Ammonia as N	0.091 mg/L	SH-09_012011_01 SH-11_012011_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-09_012011_01	Ammonia as N	0.083 mg/L	0.083U mg/L
SH-11_012011_01	Ammonia as N	0.12 mg/L	0.12U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11787-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples HAR-19_012011_01 and HAR-19_012011_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	HAR-19_012011_01	HAR-19_012011_36			
Total Alkalinity	490	500	2 (≤35)	-	-
Fluoride	0.12	0.12	0 (≤35)	-	-
Chloride	73	73	0 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	HAR-19_012011_01	HAR-19_012011_36			
Sulfate	220	220	0 (≤35)	-	-
Ammonia as N	0.076	0.065	16 (≤35)	-	-
Total dissolved solids	940	930	1 (≤35)	-	-

Analyte	Concentration		RPD (Limits)	Flags	A or P
	HAR-19_012011_01	HAR-19_012011_36			
pH	7.05 units	7.03 units	0 (≤35)	-	-
Specific conductance	20000 umhos/cm	21000 umhos/cm	5 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11787-1	HAR-26_012011_01A SH-09_012011_01A HAR-23_012011_01 HAR-19_012011_01 HAR-19_012011_36	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11787-1	HAR-26_012011_01 HAR-26_012011_01A SH-09_012011_01 SH-09_012011_01A SH-11_012011_01 HAR-23_012011_01 HAR-11_012011_01 HAR-11_012011_01A HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01 HAR-20_012011_01A	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11787-1	HAR-26_012011_01	Ammonia as N	0.069U mg/L	A	B
280-11787-1	SH-09_012011_01	Ammonia as N	0.083U mg/L	A	B
280-11787-1	SH-11_012011_01	Ammonia as N	0.12U mg/L	A	B
280-11787-1	HAR-11_012011_01	Ammonia as N	0.10U mg/L	A	B
280-11787-1	HAR-19_012011_01	Ammonia as N	0.076U mg/L	A	B
280-11787-1	HAR-19_012011_36	Ammonia as N	0.065U mg/L	A	B
280-11787-1	HAR-20_012011_01	Ammonia as N	0.073U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11787-1	SH-09_012011_01	Ammonia as N	0.083U mg/L	A	F

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11787-1	SH-11_012011_01	Ammonia as N	0.12U mg/L	A	F

LDC #: 24941A6

SDG #: 280-11787-1

Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2-17-11

Page: 1 of 1

Reviewer: CC

2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.2), Conductivity (SM2510B), Chloride, Fluoride, Nitrate, Sulfate (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/20/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(9,10)
X	Field blanks	SW	FB = FB_011411-19 (SDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	HAR-26_012011_01	11	HAR-20_012011_01	21		31	
2	HAR-26_012011_01A	12	HAR-20_012011_01A	22		32	
3	SH-09_012011_01	13	HAR-26_012011_01AMS	23		33	
4	SH-09_012011_01A	14	HAR-26_012011_01AMSD	24		34	
5	SH-11_012011_01	15	SH-09_012011_01ADUP	25		35	
6	HAR-23_012011_01	16	HAR-19_012011_01DUP	26		36	
7	HAR-11_012011_01	17	HAR-19_012011_36MS	27		37	
8	HAR-11_012011_01A	18	HAR-19_012011_36MSD	28		38	
9	HAR-19_012011_01	19	HAR-19_012011_36DUP	29		39	
10	HAR-19_012011_36	20	(#2) DUP	30		40	

Notes:

LDC #: 24941A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,3,7,11		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- **NH_3** TKN TOC CR^{6+} ClO_4
2		**pH** TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} **ClO_4**
4		**pH** TDS **Cl** F NO_3 NO_2 **SO_4** PO_4 **ALK** CN^- NH_3 TKN TOC CR^{6+} **ClO_4** Turb Cond
5,6		**pH** TDS Cl **F** NO_3 NO_2 SO_4 PO_4 ALK CN^- **NH_3** TKN TOC CR^{6+} **ClO_4**
8,12		pH TDS Cl **F** NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} **ClO_4**
9,10		**pH** TDS Cl F **NO_3** NO_2 **SO_4** PO_4 **ALK** CN^- **NH_3** TKN TOC CR^{6+} ClO_4 Turb Cond
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
13		pH TDS **Cl** F **NO_3** NO_2 **SO_4** PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
14		pH TDS **Cl** F **NO_3** NO_2 **SO_4** PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
15		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Cond
16		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Turb
17		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} **ClO_4**
18		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} **ClO_4**
19		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} **ClO_4** Cond
20		pH TDS **Cl** F **NO_3** NO_2 **SO_4** PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 24941A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	9040B						
Parameters:	pH						
Technical holding time:	48hrs						
Sample ID	**Sampling date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Qualifier**
2	1/20/11 11:00	1/22/11 12:20	(50.25hrs)				J/UJ/P (H)
4	11:30	12:22	(48.75hrs)				
6	10:02	12:25	(50.5hrs)				
9	12:10	12:26	(48.25hrs)				
10	12:10	12:34	(48.5hrs)				

LDC #: 24941A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: CC
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples:** 1, 3, 5, 6 **Reason code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		1	3	5							
NH3-N	0.0627		0.3135	0.069	0.083	0.12							

Conc. units: mg/L **Associated Samples:** 7, 9, 10, 11

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		7	9	10	11						
NH3-N	0.0552		0.276	0.10	0.076	0.065	0.073						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24941A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CC
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason: F
Blank units: mg/L **Associated sample units: mg/L**
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: NH3=3, 5 SO4=4

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		3	5						
Sulfate	0.37	1.85								
Ammonia as N	0.091	0.455	0.083	0.12						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC# 24941A6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [signature]
2nd Reviewer: [signature]

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	9	10		
Total Alkalinity	490	500	2	
Fluoride	0.12	0.12	0	
Chloride	73	73	0	
Sulfate	220	220	0	
Ammonia as N	0.076	0.065	16	
TDS	940	930	1	
pH (no units)	7.05	7.03	0	
Specific Conductance (umhos/cm)	20000	21000	5	

V:\FIELD DUPLICATES\FD_inorganic\24941A6.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 22, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-1/IUA2059

Sample Identification

PZ-077_012011_01
TB_PZ-077_012011

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_PZ-077_012011 was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11787-1/IUA2059	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-11787-1/IUA2059

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11787-1/IUA2059	PZ-077_012011_01 TB_PZ-077_012011	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-11787-1/IUA2059

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-11787-1/IUA2059

No Sample Data Qualified in this SDG

LDC #: 24941A1c **VALIDATION COMPLETENESS WORKSHEET** Date: 2/7/11
SDG #: 280-11787-1/IUA2059 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MC
2nd Reviewer: [signature]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates	N	↓
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2 FB = FB_011411L_19 (Am 280-11688-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	PZ-077_012011_01	11	IIA 2745-Blk1	21		31	
2	TB_PZ-077_012011	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 22, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-1

Sample Identification

HAR-23_012011_01
HAR-11_012011_01
HAR-19_012011_01
HAR-19_012011_36
HAR-20_012011_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11787-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11787-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11787-1	HAR-23_012011_01 HAR-11_012011_01 HAR-19_012011_01 HAR-19_012011_36 HAR-20_012011_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11787-1

No Sample Data Qualified in this SDG

LDC #: 24941A76 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11787-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MG
2nd Reviewer: [illegible]

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW/A	Sampling dates: 1/20/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	HAR-23_012011_01	11	MB 280-50859/25	21		31	
2	HAR-11_012011_01	12		22		32	
3	HAR-19_012011_01	13		23		33	
4	HAR-19_012011_36	14		24		34	
5	HAR-20_012011_01	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24981A76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: SVG
2nd reviewer: ✓

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1	W	(Hydrazine)	(1,1-Dimethylhydrazine)	(Monomethyl Hydrazine)
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
2-5	"	(Hydrazine)	(1,1-Dimethylhydrazine)	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 21, 2011

LDC Report Date: February 22, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11825-2

Sample Identification

RD-45A_012111_36
FB_RD-45A_012111_19
EB_SH-02_012111
SH-02_012111_36
FB_SH-02_012111_19
EB_SH-03_012111
SH-03_012111_36
FB_SH-03_012111_19
EB_SH-04_012111
SH-04_012111_36
FB_SH-04_012111_19
RD-49B_012111_36
FB_RD-49B_012111_19
RD-49C_012111_36
FB_RD-49C_012111_19

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples EB_SH-02_012111, EB_SH-03_012111, and EB_SH-04_012111 were identified as equipment blanks. No N-Nitrosodimethylamine was found in these blanks.

Samples FB_RD-45A_012111_19, FB_SH-02_012111_19, FB_SH-03_012111_19, FB_SH-04_012111_19, FB_RD-49B_012111_19, FB_RD-49C_012111_19, and FB_011411_19 (from SDG 280-11825-1) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_SH-04_012111_19	1/21/11	N-Nitrosodimethylamine	0.0062 ug/L	SH-04_012111_36

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than (>5X for contaminants) the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11825-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-45A_012111_01 (from SDG 280-11825-1), and RD-45A_012111_36 samples SH-02_012111_01 (from SDG 280-11825-1), and SH-02_012111_36, samples SH-03_012111_01 (from SDG 280-11825-1), and SH-03_012111_36, samples SH-04_012111_01 (from SDG 280-11825-1), and SH-04_012111_36, samples RD-49B_012111_01 (from SDG 280-11825-1), and RD-49B_012111_36, and samples RD-49C_012111_01 (from SDG 280-11825-1), and RD-49C_012111_36 were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

	Concentration (ug/L)		
Compound	RD-45A_012111_36	RD-45A_012111_01	RPD (Limits)
N-Nitrosodimethylamine	0.0065	0.0069	6 (≤35)

	Concentration (ug/L)		
Compound	SH-02_012111_36	SH-02_012111_01	RPD (Limits)
N-Nitrosodimethylamine	0.057	0.049	15 (≤35)

	Concentration (ug/L)		
Compound	SH-03_012111_36	SH-03_012111_01	RPD (Limits)
N-Nitrosodimethylamine	0.13	0.10	26 (≤35)

	Concentration (ug/L)		
Compound	SH-04_012111_36	SH-04_012111_01	RPD (Limits)
N-Nitrosodimethylamine	0.052	0.053	2 (≤35)

	Concentration (ug/L)		
Compound	RD-49B_012111_36	RD-49B_012111_01	RPD (Limits)
N-Nitrosodimethylamine	0.040	0.043	7 (≤35)

	Concentration (ug/L)		
Compound	RD-49C_012111_36	RD-49C_012111_01	RPD (Limits)
N-Nitrosodimethylamine	0.019	0.026	31 (≤35)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11825-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11825-2	RD-45A_012111_36 FB_RD-45A_012111_19 EB_SH-02_012111 SH-02_012111_36 FB_SH-02_012111_19 EB_SH-03_012111 SH-03_012111_36 FB_SH-03_012111_19 EB_SH-04_012111 SH-04_012111_36 FB_SH-04_012111_19 RD-49B_012111_36 FB_RD-49B_012111_19 RD-49C_012111_36 FB_RD-49C_012111_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11825-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11825-2

No Sample Data Qualified in this SDG

LDC #: 24941B2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/17/11
SDG #: 280-11825-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/21/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS /D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_1 = 1 + RD-45A_012111_01 D_2 = 4 + SH-02_012111_01 (from 280-11825-1)
XVII.	Field blanks	SW	FB = *2, *5, *8, 11, 13*, 15* (=FB-011411_19) *EB = 3, 6, 9

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

D_3 = 7 + SH-02_012111_01
D_4 = 10 + SH-04_012111_01
D_5 = 12 + RD-49B_012111_01
D_6 = 14 + DD-49C_012111-01 (all from 280-11825-1)

Validated Samples: Water

1	RD-45A_012111_36 (D_1)	11	FB_SH-04_012111_19	21	MB 280-51008/1-A	31	
2	FB_RD-45A_012111_19	12	RD-49B_012111_36 (D_5)	22		32	
3	EB_SH-02_012111	13	FB_RD-49B_012111_19	23		33	
4	SH-02_012111_36 (D_2)	14	RD-49C_012111_36 (D_6)	24		34	
5	FB_SH-02_012111_19	15	FB_RD-49C_012111_19	25		35	
6	EB_SH-03_012111	16		26		36	
7	SH-03_012111_36 (D_3)	17		27		37	
8	FB_SH-03_012111_19	18		28		38	
9	EB_SH-04_012111	19		29		39	
10	SH-04_012111_36 (D_4)	20		30		40	

(Note: Samples were extracted for 8 hrs instead of 18 hours)

LDC #: 24941B25

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

NDMA 1625
METHOD: GC/MS ~~BNA~~ (EPA SW ~~846 Method 8270C~~)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 1/21/11
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 16

Compound	Blank ID	Sample Identification								
	11		10							
~~Diethylphthalate~~ NDMA	0.0062		0.057							
Di-n-butylphthalate										
Bis(2-ethylhexyl)phthalate										
CRQL										

5X
.071

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Diethylphthalate										
Di-n-butylphthalate										
Bis(2-ethylhexyl)phthalate										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC#:24941B2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	1	RD-45A_012111_01		
NDMA	0.0065	0.0069	6	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	4	SH-02_012111_01		
NDMA	0.057	0.049	15	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	7	SH-03_012111_01		
NDMA	0.13	0.10	26	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	10	SH-04_012111_01		
NDMA	0.052	0.053	2	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	12	RD-49B_012111_01		
NDMA	0.040	0.043	7	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	14	RD-49C_012111_01		
NDMA	0.019	0.026	31	

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 17, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24963:

SDG #	Fraction
280-11753-1/IUA2058/ A1A200495 280-11896-1/IUA2476/ A1A260489 280-11904-1/H1A270424 IUA2025	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, N-Nitrosodimethylamine, Metals, Wet Chemistry, Gasoline Range Organics, Diesel Range Organics, Formaldehyde, Hydrazine, Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV

LDC #24963 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8270C-S		1,2,3-TCP (524.2)		SVOA (8270C)		NDMA (1625)		Metals (SW846)		Diss. Metals (SW846)		GRO (8015B)		DRO (OK-DEQ)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxin (8290)		PAH (8270C)					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11753-1/ IUA2058/ A1A200495	02/17/11	03/11/11	17	0	13	0	5	0	10	0	7	0	3	0	5	0	3	0	9	0	8	0	7	0	5	0	5	0	-	-	2	0				
B	280-11896-1/ IUA2476/ A1A260489	02/17/11	03/11/11	11	0	7	0	1	0	6	0	6	0	2	0	3	0	-	-	7	0	7	0	6	0	6	0	7	0	-	-	-	-				
C	280-11904-1/ H1A270424	02/17/11	03/11/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-				
D	IUA2025	02/17/11	03/11/11	-	-	-	-	-	-	[illegible]	[illegible]	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total	A/PG			28	0	20	0	6	0	17	0	13	0	6	0	9	0	3	0	16	0	15	0	13	0	11	0	12	0	1	0	2	0	0	0	0	172

Client Select IV

LDC #24963 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.1)		Br NO_2 O-PO_4		Cl SO_4 (300.0)		F NO_3 (300.0)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		Cr(VI) (7196A)		Diss Cr(VI) (7196A)											
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11753-1	02/17/11	03/11/11	3	0	8	0	2	0	5	0	10	0	3	0	11	0	8	0	3	0	3	0	-	-	-	-								
B	280-11896-1	02/17/11	03/11/11	2	0	6	0	1	0	3	0	7	0	2	0	8	0	6	0	2	0	2	0	1	0	1	0								
Total	A/PG			5	0	14	0	3	0	8	0	17	0	5	0	19	0	14	0	5	0	5	0	1	0	1	0	0	0	0	0	0	0	0	0	0	97

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 19, 2011

LDC Report Date: March 2, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11753-1

Sample Identification

HAR-31_011911_01
TB_HAR-31_011911
PZ-159_011911_01
EB_PZ-159_011911
HAR-28_011911_01
HAR-27_011911_01
RD-08_011911_01
RD-37_011911_01
RD-37_011911_36
TB_RD-37_011911
RD-39A_011911_01
RD-39B_011911_01
RD-33A_011911_01
RD-50_011911_01
TB_RD-50 _011911
RD-57_011911_01
PZ-159_011911_01MS
PZ-159_011911_01MSD
RD-39B_011911_01MS
RD-39B_011911_01MSD
TB_HAR-28_011911

Introduction

This data review covers 21 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-51068/5	1/28/11	Acetone Methylene chloride	3.61 ug/L 0.453 ug/L	All samples in SDG 280-11753-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
HAR-31_011911_01	Methylene chloride	0.50 ug/L	5.0U ug/L
TB_HAR-31_011911	Acetone Methylene chloride	4.2 ug/L 1.2 ug/L	10U ug/L 5.0U ug/L
PZ-159_011911_01	Acetone Methylene chloride	1.9 ug/L 0.61 ug/L	10U ug/L 1.0U ug/L
EB_PZ-159_011911	Methylene chloride	0.75 ug/L	1.0U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
HAR-28_011911_01	Methylene chloride	0.73 ug/L	5.0U ug/L
TB_HAR-28_011911	Acetone Methylene chloride	3.9 ug/L 0.87 ug/L	10U ug/L 5.0U ug/L
HAR-27_011911_01	Methylene chloride	0.49 ug/L	5.0U ug/L
RD-08_011911_01	Methylene chloride	0.50 ug/L	5.0U ug/L
RD-37_011911_01	Methylene chloride	0.66 ug/L	5.0U ug/L
RD-37_011911_36	Methylene chloride	0.67 ug/L	5.0U ug/L
TB_RD-37_011911	Acetone Methylene chloride	4.3 ug/L 1.2 ug/L	10U ug/L 5.0U ug/L
RD-39A_011911_01	Acetone Methylene chloride	2.1 ug/L 0.63 ug/L	10U ug/L 5.0U ug/L
RD-39B_011911_01	Methylene chloride	0.60 ug/L	5.0U ug/L
RD-33A_011911_01	Methylene chloride	0.63 ug/L	5.0U ug/L
RD-50_011911_01	Methylene chloride	0.63 ug/L	5.0U ug/L
TB_RD-50 _011911	Methylene chloride	1.2 ug/L	5.0U ug/L
RD-57_011911_01	Acetone Methylene chloride	2.0 ug/L 0.54 ug/L	10U ug/L 5.0U ug/L

Samples TB_HAR-31_011911, TB_RD-37_011911, TB_RD-50 _011911, and TB_HAR-28_011911 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_HAR-31_011911	1/19/11	Acetone Methylene chloride	4.2 ug/L 1.2 ug/L	HAR-31_011911_01 PZ-159_011911_01 EB_PZ-159_011911
TB_HAR-28_011911	1/19/11	Acetone Methylene chloride	3.9 ug/L 0.87 ug/L	HAR-28_011911_01 HAR-27_011911_01 RD-08_011911_01

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-37_011911	1/19/11	Acetone Methylene chloride	4.3 ug/L 1.2 ug/L	RD-37_011911_01 RD-37_011911_36 RD-39A_011911_01 RD-39B_011911_01
TB_RD-50 _011911	1/19/11	Methylene chloride	1.2 ug/L	RD-33A_011911_01 RD-50_011911_01 RD-57_011911_01

Sample EB_PZ-159_011911 was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-159_011911	1/19/11	Methylene chloride Chloroform	0.75 ug/L 2.9 ug/L	PZ-159_011911_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform Styrene	2.5 ug/L 0.40 ug/L	PZ-159_011911_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
HAR-31_011911_01	Methylene chloride	0.5 ug/L	5.0U ug/L
PZ-159_011911_01	Acetone Methylene chloride	1.9 ug/L 0.61 ug/L	10U ug/L 1.0U ug/L
EB_PZ-159_011911	Methylene chloride	0.75 ug/L	1.0U ug/L
HAR-28_011911_01	Methylene chloride	0.73 ug/L	5.0U ug/L
HAR-27_011911_01	Methylene chloride	0.49 ug/L	5.0U ug/L

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-08_011911_01	Methylene chloride	0.50 ug/L	5.0U ug/L
RD-37_011911_01	Methylene chloride	0.66 ug/L	5.0U ug/L
RD-37_011911_36	Methylene chloride	0.67 ug/L	5.0U ug/L
RD-39A_011911_01	Acetone Methylene chloride	2.1 ug/L 0.63 ug/L	10U ug/L 5.0U ug/L
RD-39B_011911_01	Methylene chloride	0.60 ug/L	5.0U ug/L
RD-33A_011911_01	Methylene chloride	0.63 ug/L	5.0U ug/L
RD-50_011911_01	Methylene chloride	0.63 ug/L	5.0U ug/L
RD-57_011911_01	Methylene chloride	0.54 ug/L	5.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-39B_011911_01MS/MSD (RD-39B_011911_01)	Acetone Methyl ethyl ketone	165 (48-130) 128 (57-120)	164 (48-130) 128 (57-120)	- -	J (all detects) J (all detects)	A
RD-39B_011911_01MS/MSD (RD-39B_011911_01)	Carbon tetrachloride	79 (80-120)	79 (80-120)	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS 280-51068/4 (All samples in SDG 280-11753-1)	Acetone Chloroethane	168 (48-130) 138 (51-133)	- -	- -	J (all detects) J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-37_011911_01 and RD-37_011911_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RD-37_011911_01	RD-37_011911_36			
Methylene chloride	0.66	0.67	2 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1	RD-39B_011911_01	Acetone Methyl ethyl ketone	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-11753-1	RD-39B_011911_01	Carbon tetrachloride	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-11753-1	HAR-31_011911_01 TB_HAR-31_011911 PZ-159_011911_01 EB_PZ-159_011911 HAR-28_011911_01 HAR-27_011911_01 RD-08_011911_01 RD-37_011911_01 RD-37_011911_36 TB_RD-37_011911 RD-39A_011911_01 RD-39B_011911_01 RD-33A_011911_01 RD-50_011911_01 TB_RD-50 _011911 RD-57_011911_01 TB_HAR-28_011911	Acetone Chloroethane	J (all detects) J (all detects)	P	Laboratory control samples (%R) (L)
280-11753-1	HAR-31_011911_01 TB_HAR-31_011911 PZ-159_011911_01 EB_PZ-159_011911 HAR-28_011911_01 HAR-27_011911_01 RD-08_011911_01 RD-37_011911_01 RD-37_011911_36 TB_RD-37_011911 RD-39A_011911_01 RD-39B_011911_01 RD-33A_011911_01 RD-50_011911_01 TB_RD-50 _011911 RD-57_011911_01 TB_HAR-28_011911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11753-1	HAR-31_011911_01	Methylene chloride	5.0U ug/L	A	B
280-11753-1	TB_HAR-31_011911	Acetone Methylene chloride	10U ug/L 5.0U ug/L	A	B

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11753-1	PZ-159_011911_01	Acetone Methylene chloride	10U ug/L 1.0U ug/L	A	B
280-11753-1	EB_PZ-159_011911	Methylene chloride	1.0U ug/L	A	B
280-11753-1	HAR-28_011911_01	Methylene chloride	5.0U ug/L	A	B
280-11753-1	TB_HAR-28_011911	Acetone Methylene chloride	10U ug/L 5.0U ug/L	A	B
280-11753-1	HAR-27_011911_01	Methylene chloride	5.0U ug/L	A	B
280-11753-1	RD-08_011911_01	Methylene chloride	5.0U ug/L	A	B
280-11753-1	RD-37_011911_01	Methylene chloride	5.0U ug/L	A	B
280-11753-1	RD-37_011911_36	Methylene chloride	5.0U ug/L	A	B
280-11753-1	TB_RD-37_011911	Acetone Methylene chloride	10U ug/L 5.0U ug/L	A	B
280-11753-1	RD-39A_011911_01	Acetone Methylene chloride	10U ug/L 5.0U ug/L	A	B
280-11753-1	RD-39B_011911_01	Methylene chloride	5.0U ug/L	A	B
280-11753-1	RD-33A_011911_01	Methylene chloride	5.0U ug/L	A	B
280-11753-1	RD-50_011911_01	Methylene chloride	5.0U ug/L	A	B
280-11753-1	TB_RD-50 _011911	Methylene chloride	5.0U ug/L	A	B
280-11753-1	RD-57_011911_01	Acetone Methylene chloride	10U ug/L 5.0U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11753-1	HAR-31_011911_01	Methylene chloride	5.0U ug/L	A	T
280-11753-1	PZ-159_011911_01	Acetone	10U ug/L	A	T
280-11753-1	PZ-159_011911_01	Methylene chloride	1.0U ug/L	A	F,T

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11753-1	EB_PZ-159_011911	Methylene chloride	1.0U ug/L	A	T
280-11753-1	HAR-28_011911_01	Methylene chloride	5.0U ug/L	A	T
280-11753-1	HAR-27_011911_01	Methylene chloride	5.0U ug/L	A	T
280-11753-1	RD-08_011911_01	Methylene chloride	5.0U ug/L	A	T
280-11753-1	RD-37_011911_01	Methylene chloride	5.0U ug/L	A	T
280-11753-1	RD-37_011911_36	Methylene chloride	5.0U ug/L	A	T
280-11753-1	RD-39A_011911_01	Acetone Methylene chloride	10U ug/L 5.0U ug/L	A	T
280-11753-1	RD-39B_011911_01	Methylene chloride	5.0U ug/L	A	T
280-11753-1	RD-33A_011911_01	Methylene chloride	5.0U ug/L	A	T
280-11753-1	RD-50_011911_01	Methylene chloride	5.0U ug/L	A	T
280-11753-1	RD-57_011911_01	Methylene chloride	5.0U ug/L	A	T

LDC #: 24963A1a **VALIDATION COMPLETENESS WORKSHEET** Date: 2/6/11
SDG #: 280-11753-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VG
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	SW	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 9, 10
XVII.	Field blanks	SW	TB = 2, 11, 16, 22 EB = 4 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	HAR-31_011911_01	11	TB_RD-37_011911	21	RD-39B_011911_01MSD	31	MB 280-50263/5
2	TB_HAR-31_011911	12	RD-39A_011911_01	22	TB_HAR-28_011911	32	MB 280-51068/5
3	PZ-159_011911_01	13	RD-39B_011911_01	23		33	
4	EB_PZ-159_011911	14	RD-33A_011911_01	24		34	
5	HAR-28_011911_01	15	RD-50_011911_01	25		35	
6	~~HAR-27_011911~~	16	TB_RD-50_011911	26		36	
7	HAR-27_011911_01	17	RD-57_011911_01	27		37	
8	RD-08_011911_01	18	PZ-159_011911_01MS	28		38	
9	RD-37_011911_01	19	PZ-159_011911_01MSD	29		39	
10	RD-37_011911_36	20	RD-39B_011911_01MS	30		40	

(RPFT, GGGG, II)

VOCs + 1PA = 1, 2, 8, 9, 10, 11, 12, 13
Std Water = 3, 4
VOCs = 5, 7, 8, 14, 15, 16, 17

24963A1aW.wpd

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24963A1C

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: NG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 1/28/11
Conc. units: ug/L
Associated Samples: All
Code: B

Compound	Blank ID	Sample Identification								
MB	280-51068/5	1	2	3	4	5	22	#7	8	9
~~Methylene chloride~~ F	3.61		4.2/10U	1.9/10U			3.9/10U			
~~Acetone~~ E	0.453	0.50/5.0U	1.2/5.0U	0.61/~~5.0U~~ 1.0U	0.75/~~5.0U~~ 1.0U	0.73/5.0U	0.87/5.0U	0.49/5.0U	0.50/5.0U	0.66/5.0U
CRQL										

Blank analysis date:
Conc. units:
Same as above
Associated Samples:

Compound	Blank ID	Sample Identification								
MB	280-51068/5	10	11	12	13	14	15	16	17	
~~Methylene chloride~~ F	3.61		4.3/10U	2.1/10U					2.0/10U	
~~Acetone~~ E	0.453	0.67/5.0U	1.2/5.0U	0.63/5.0U	0.60/5.0U	0.63/5.0U	0.63/5.0U	1.2/5.0U	0.57/5.0U	
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24963A1c

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 1, 3, 4 Code: T

Compound	Blank ID 2	Blank ID	Sample Identification							
Sampling Date	1/19/11		1	3	4					
~~Methylene chloride~~ F	4.2			1.9/10U						
~~Acetone~~ E	1.2		0.5/5.0U	0.61/~~5.0U~~ 10U	0.75/~~5.0U~~ 10U					
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 5, 7, 8 Code: T

Compound	Blank ID 22	Blank ID	Sample Identification							
Sampling Date	1/19/11		5	7	8					
~~Methylene chloride~~ F	3.9									
~~Acetone~~ E	0.87		0.73/5.0U	0.49/5.0U	0.50/5.0U					
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24963 A1Q

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVC
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 9, 10, 12, 13 Code: T

Compound	Blank ID 11	Blank ID	Sample Identification							
Sampling Date	1/19/11		9	10	12	13				
~~Methylene chloride~~ F	4.3				2.1/10 U					
~~Acetone~~ E	1.2		0.66/5.0U	0.67/5.0U	0.63/5.0U	0.60/5.0U				
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 14, 15, 17 Code: T

Compound	Blank ID 16	Blank ID	Sample Identification							
Sampling Date	1/19/11		14	15	17					
Methylene chloride E	1.2		0.63/5.0U	0.63/5.0U	0.54/5.0U					
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24963A/C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated ~~sample~~ units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 3 Code: F

Compound	Blank ID 4	Blank ID FB_011411_19	Sample Identification							
Sampling Date	1/19/11	1/14/11	3							
Methylene chloride	0.75		0.61 / ~~5.04~~ 1.0 U							
Acetone										
Chloroform	2.9	2.5								
FT		0.40								
CRQL										

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24963A1C

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: JV6
2nd Reviewer: _____

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	20/21	F	165 (48-130)	164 (48-130)	( )	13	J dets/A (Q)
		O	79 (80-120)	79 (80-120)	( )		J/UJ/A
		NN	128 (57-120)	128 (57-120)	( )		J dets/A
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

LDC #: 24963A1C

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVL
2nd Reviewer: _____

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?
Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	LCS 280-51068/4	F	168 (48-130)	( )	( )	All	J dets/p (L)
		D	138 (51-133)	( )	( )	↓	↓ ↓
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )	

LDC#:24963A1a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: DVG
2nd Reviewer:

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

(Y) N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications
	9	10		
Methylene chloride	0.66	0.67	2	

V:\FIELD DUPLICATES\24963A1a.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 19, 2011

LDC Report Date: March 2, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11753-1

Sample Identification

HAR-31_011911_01
TB_HAR-31_011911
PZ-159_011911_01
EB_PZ-159_011911
HAR-28_011911_01
HAR-27_011911_01
RD-08_011911_01
RD-37_011911_01
RD-37_011911_36
TB_RD-37_011911
RD-39A_011911_01
RD-39B_011911_01
RD-39B_011911_01MS
RD-39B_011911_01MSD
TB_HAR-28_011911

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_HAR-31_011911, TB_RD-37_011911, and TB_HAR-28_011911 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Sample EB_PZ-159_011911 was identified as an equipment blank. No 1,4-Dioxane was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-37_011911_01 and RD-37_011911_36 were identified as field duplicates. No 1,4-Dioxane was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1	HAR-31_011911_01 TB_HAR-31_011911 PZ-159_011911_01 EB_PZ-159_011911 HAR-28_011911_01 HAR-27_011911_01 RD-08_011911_01 RD-37_011911_01 RD-37_011911_36 TB_RD-37_011911 RD-39A_011911_01 RD-39B_011911_01 TB_HAR-28_011911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

LDC #: 24963A1b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/01/11
SDG #: 280-11753-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: VG
2nd Reviewer: [illegible]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 9, 10
XVII.	Field blanks	ND	TB = 2, 11, 16 EB = 4; EB-P FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-31_011911_01	11	TB_RD-37_011911	21	MB 280-50430/5	31	
2	TB_HAR-31_011911	12	RD-39A_011911_01	22		32	
3	PZ-159_011911_01	13	RD-39B_011911_01	23		33	
4	EB_PZ-159_011911	14	RD-39B_011911_01MS	24		34	
5	HAR-28_011911_01	15	RD-39B_011911_01MSD	25		35	
6	~~HAR-27_011911~~	16	TB_HAR-28_011911	26		36	
7	HAR-27_011911_01	17		27		37	
8	RD-08_011911_01	18		28		38	
9	RD-37_011911_01 D	19		29		39	
10	RD-37_011911_36 D	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 19, 2011
LDC Report Date:	March 2, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11753-1/IUA2058

Sample Identification

RD-37_011911_01
RD-37_011911_36
TB_RD-37_011911
RD-39A_011911_01
RD-39B_011911_01
RD-39B_011911_01MS
RD-39B_011911_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_RD-37_011911 was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1/IUA2058	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-37_011911_01 and RD-37_011911_36 were identified as field duplicates. No 1,2,3-Trichloropropane was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-11753-1/IUA2058

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1/IUA2058	RD-37_011911_01 RD-37_011911_36 TB_RD-37_011911 RD-39A_011911_01 RD-39B_011911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-11753-1/IUA2058

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-11753-1/IUA2058

No Sample Data Qualified in this SDG

LDC #: 24963A1c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/01/12
SDG #: 280-11753-1/IUA2058 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 1,2
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-37_011911_01 D	11	11A2745-BLK1	21		31	
2	RD-37_011911_36 D	12		22		32	
3	TB_RD-37_011911	13		23		33	
4	RD-39A_011911_01	14		24		34	
5	RD-39B_011911_01	15		25		35	
6	RD-39B_011911_01MS	16		26		36	
7	RD-39B_011911_01MSD	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 19, 2011
LDC Report Date:	March 2, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11753-1

Sample Identification

HAR-31_011911_01
PZ-159_011911_01
EB_PZ-159_011911
HAR-28_011911_01
HAR-27_011911_01
RD-08_011911_01
RD-37_011911_01
RD-37_011911_36
RD-39A_011911_01
RD-39B_011911_01
RD-39B_011911_01MS
RD-39B_011911_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_PZ-159_011911 was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-37_011911_01 and RD-37_011911_36 were identified as field duplicates. No semivolatiles were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1	HAR-31_011911_01 PZ-159_011911_01 EB_PZ-159_011911 HAR-28_011911_01 HAR-27_011911_01 RD-08_011911_01 RD-37_011911_01 RD-37_011911_36 RD-39A_011911_01 RD-39B_011911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

LDC #: 24963A2a **VALIDATION COMPLETENESS WORKSHEET** Date: 3/01/11
SDG #: 280-11753-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 7, 8
XVII.	Field blanks	ND	EB = 3 FB = FB_011411_19 from 280-11638-1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-31_011911_01	11	RD-39B_011911_01MS	21	MB 28-49828/1-A	31	
2	PZ-159_011911_01	12	RD-39B_011911_01MSD	22		32	
3	EB_PZ-159_011911	13		23		33	
4	HAR-28_011911_01	14		24		34	
5	HAR-27_011911_01	15		25		35	
6	RD-08_011911_01	16		26		36	
7	RD-37_011911_01 D	17		27		37	
8	RD-37_011911_36 D	18		28		38	
9	RD-39A_011911_01	19		29		39	
10	RD-39B_011911_01	20		30		40	

NB = 1, 4, 5
8270 Full = 2, 3
Phthalate + NB = 7, 8, 9, 10
NB + A = 6

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 19, 2011

LDC Report Date: March 2, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11753-1

Sample Identification

HAR-31_011911_01
HAR-28_011911_01
HAR-27_011911_01
RD-08_011911_01
RD-37_011911_01
RD-39A_011911_01
RD-39B_011911_01
RD-39B_011911_01MS
RD-39B_011911_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1	HAR-31_011911_01 HAR-28_011911_01 HAR-27_011911_01 RD-08_011911_01 RD-37_011911_01 RD-39A_011911_01 RD-39B_011911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

LDC #: 24963A2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/6/11
SDG #: 280-11753-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: JK

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-31_011911_01	11	MB 280-50354/1-A	21		31	
2	HAR-28_011911_01	12		22		32	
3	HAR-27_011911_01	13		23		33	
4	RD-08_011911_01	14		24		34	
5	RD-37_011911_01	15		25		35	
6	RD-39A_011911_01	16		26		36	
7	RD-39B_011911_01	17		27		37	
8	RD-39B_011911_01MS	18		28		38	
9	RD-39B_011911_01MSD	19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 19, 2011
LDC Report Date:	March 11, 2011
Matrix:	Water
Parameters:	Polynuclear Aromatic Hydrocarbons
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11753-1

Sample Identification

PZ-159_011911_01
EB_PZ-159_011911

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-49902/1-A	1/21/11	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.146 ug/L 0.0651 ug/L 0.517 ug/L	All samples in SDG 280-11753-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-159_011911_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.49 ug/L 0.13 ug/L 0.81 ug/L	9.6U ug/L 9.6U ug/L 9.6U ug/L
EB_PZ-159_011911	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.19 ug/L 0.040 ug/L 0.69 ug/L	9.6U ug/L 9.6U ug/L 9.6U ug/L

Sample EB_PZ-159_011911 was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-159_011911	1/14/11	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	0.19 ug/L 0.040 ug/L 0.69 ug/L	PZ-159_011911_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate Benzo(a)anthracene Chrysene Naphthalene Butylbenzylphthalate	0.14 ug/L 0.094 ug/L 0.51 ug/L 0.0054 ug/L 0.0037 ug/L 0.0073 ug/L 0.060 ug/L	PZ-159_011911_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-159_011911_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate Butylbenzylphthalate	0.49 ug/L 0.13 ug/L 0.81 ug/L 0.11 ug/L	9.6U ug/L 9.6U ug/L 9.6U ug/L 9.6U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1	PZ-159_011911_01 EB_PZ-159_011911	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11753-1	PZ-159_011911_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	9.6U ug/L 9.6U ug/L 9.6U ug/L	A	B
280-11753-1	EB_PZ-159_011911	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate	9.6U ug/L 9.6U ug/L 9.6U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11753-1	PZ-159_011911_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate Butylbenzylphthalate	9.6U ug/L 9.6U ug/L 9.6U ug/L 9.6U ug/L	A	F

LDC #: 24963A2c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/6/11
SDG #: 280-11753-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 2 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	~~PZ-159_011911-01 HAR-31_011911_01~~	+ 11	MB 280-49902/1-A	21		31	
2	EB_PZ-159_011911	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 24963A2C

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: DVC
2nd Reviewer: [signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 1/21/11 **Blank analysis date:** 1/24/11
Conc. units: ug/L Associated Samples: All Code: B

Compound	Blank ID	Sample Identification							
MB	280-49902/1-A	1-A	1	2					
EEE	0.146		0.49 / 9.64	0.19 / 9.64					
XX	0.0651		0.13 /	0.040 /					
FFF	0.517		0.81 /	0.69 /					

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24963A2C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JVC
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: 1/14/11 1/19/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 1 Code: F

Compound	Blank ID	(from 280-11638-1) Sample Identification								
	2	FB_011411_19		1						
~~Diethylphthalate~~ EEE	0.19	0.14		0.49/9.6U						
~~Di-n-butylphthalate~~ XX	0.040	0.094		0.13/						
~~Bis(2-ethylhexyl)phthalate~~ FFF	0.69	0.57		0.81/						
CCC	0	0.0054								
bDD		0.0037								
S		0.0073								
CRQL AAA		0.060		0.11/9.6U						

Blank units: _____ **Associated sample units:** _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Diethylphthalate										
Di-n-butylphthalate										
Bis(2-ethylhexyl)phthalate										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 19, 2011

LDC Report Date: February 24, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11753-1

Sample Identification

HAR-31_011911_01
HAR-28_011911_01
HAR-27_011911_01
HAR-31_011911_01F
PZ-159_011911_01F
EB_PZ-159_011911F
HAR-28_011911_01F
HAR-27_011911_01F
HAR-31_011911_01FMS
HAR-31_011911_01FMSD
PZ-159_011911_01FMS
PZ-159_011911_01FMSD
HAR-28_011911_01MS
HAR-28_011911_01MSD
EB_PZ-159_011911FMS
EB_PZ-159_011911FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 16 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Zinc	0.00505 mg/L	HAR-31_011911_01 HAR-28_011911_01 HAR-27_011911_01
PB (prep blank)	Zinc	0.000543 mg/L	PZ-159_011911_01F EB_PZ-159_011911F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-31_011911_01	Zinc	0.0046 mg/L	0.0046U mg/L
HAR-28_011911_01	Zinc	0.0068 mg/L	0.0068U mg/L
HAR-27_011911_01	Zinc	0.0065 mg/L	0.0065U mg/L

Sample EB-PZ-159_011911F was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB-PZ-159_011911F	1/19/11	Boron Calcium Sodium Cobalt Silver	0.0087 mg/L 0.039 mg/L 0.23 mg/L 0.000022 mg/L 0.000022 mg/L	PZ-159_011911_01F

Sample FB_011411_19F (from SDG 280-11638-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-159_011911_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-159_011911_01F	Silver	0.000028 mg/L	0.000028U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-159_011911_01FMS/MSD (PZ-159_011911_01F EB_PZ-159_011911F)	Aluminum	156 (75-125)	156 (75-125)	-	J (all detects)	A

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11753-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11753-1	PZ-159_011911_01F EB_PZ-159_011911F	Aluminum	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-11753-1	HAR-31_011911_01 HAR-28_011911_01 HAR-27_011911_01 HAR-31_011911_01F PZ-159_011911_01F EB_PZ-159_011911F HAR-28_011911_01F HAR-27_011911_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11753-1	HAR-31_011911_01	Zinc	0.0046U mg/L	A	B
280-11753-1	HAR-28_011911_01	Zinc	0.0068U mg/L	A	B
280-11753-1	HAR-27_011911_01	Zinc	0.0065U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11753-1	PZ-159_011911_01F	Silver	0.000028U mg/L	A	F

LDC #: 24963A4 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/23/4

SDG #: 280-11753-1 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: CR

2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method 6010B/6020/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	SW	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=~~N~~,8 ; FB= ~~FB-011411-19~~, FB_011411_19F (CSOC: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	HAR-31_011911_01	11	HAR-31_011911_01MS F	21		31	
~~2~~	~~PZ-159_011911_01~~	12	HAR-31_011911_01MSD F	22		32	
~~3~~	~~EB_PZ-159_011911~~	13	PZ-159_011911_01MS F	23		33	
4	HAR-28_011911_01	14	PZ-159_011911_01MSD F	24		34	
5	HAR-27_011911_01	15	HAR-28_011911_01MS	25		35	
6	HAR-31_011911_01F	16	HAR-28_011911_01MSD	26		36	
7	PZ-159_011911_01F	~~17~~	~~HAR-31_011911_01FMS~~	27		37	
8	EB_PZ-159_011911F	~~18~~	~~HAR-31_011911_01FMSD~~	28		38	
9	HAR-28_011911_01F	19	EB_PZ-159_011911FMS	29		39	
10	HAR-27_011911_01F	20	EB_PZ-159_011911FMSD	30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

LDC #: 24463H4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: W

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1,4,5,6,9,10		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (Sc)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
2,8,7		(Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn) Hg, (Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B) Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
QC: 11,12,15,16		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (Sc)
~~15,16~~		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
13,14		(Al, Sb), As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), Mn, Hg, Ni, (K), Se, Ag, (Na), Tl, V, Zn, Mo, (B) Si, CN;
19,20		Al, Sb, (As, Ba, Be, Cd), Ca, (Cr, Co, Cu), Fe, (Pb), Mg, (Mn), Hg, (Ni), K, (Se, Ag), Na, (Tl, V, Zn, Mo) B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
Analysis Method		
ICP		(Al, Sb), As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, (B), Si, CN; (Sc)
ICP-MS		Al, Sb, (As, Ba, Be, Cd), Ca, (Cr, Co, Cu), Fe, (Pb), Mg, (Mn), Hg, (Ni), K, (Se, Ag), Na, (Tl, V, Zn, Mo), B, Si, CN;
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

Comments: Mercury by CVAA if performed

LDC #: 24963A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: CE
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1, 4, 5

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1	4	5							
Zn		0.00505		0.02525	0.0046	0.0068	0.0065							

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 7,8

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
Ba		0.000543		0.00272										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24963A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CE
2nd Reviewer: IN

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 7

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

Sampling date: 1/19/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 7

Analyte	Blank ID	Sample Identification										
	8	Action Level	7									
B	0.0087	0.0435										
Ca	0.039	0.195										
Na	0.23	1.15										
Co	0.000022	0.00011										
Ag	0.000022	0.00011	0.000028									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24963A4

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: GR
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	13/14	W	A1	156	156		7,8	Jdet/A (Q)

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 19, 2011

LDC Report Date: February 24, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11753-1

Sample Identification

HAR-31_011911_01
HAR-31_011911_01A
PZ-159_011911_01
EB_PZ-159_011911
HAR-28_011911_01
HAR-28_011911_01A
HAR-27_011911_01
HAR-27_011911_01A
RD-08_011911_01
RD-37_011911_01
RD-37_011911_36
RD-39A_011911_01
RD-39B_011911_01
RD-33A_011911_01
RD-50_011911_01
RD-57_011911_01
HAR-31_011911_01ADUP
HAR-28_011911_01ADUP
RD-39B_011911_01MS
RD-39B_011911_01MSD
RD-39B_011911_01DUP

Introduction

This data review covers 21 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, Standard Method 2510B for Conductivity, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphorus, and Sulfate, EPA Method 314.0 for Perchlorate, EPA Method 9040B for pH, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
RD-39A_011911_01	pH	50 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-37_011911_01	pH	50.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-37_011911_36	pH	51 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0627 mg/L	HAR-31_011911_01 HAR-28_011911_01 HAR-27_011911_01 RD-08_011911_01 RD-37_011911_01 RD-37_011911_36 RD-39A_011911_01 RD-39B_011911_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-31_011911_01	Ammonia as N	0.061 mg/L	0.061U mg/L
HAR-28_011911_01	Ammonia as N	0.063 mg/L	0.063U mg/L
RD-08_011911_01	Ammonia as N	0.13 mg/L	0.13U mg/L
RD-37_011911_01	Ammonia as N	0.055 mg/L	0.055U mg/L
RD-37_011911_36	Ammonia as N	0.056 mg/L	0.056U mg/L
RD-39A_011911_01	Ammonia as N	0.16 mg/L	0.16U mg/L
RD-39B_011911_01	Ammonia as N	0.058 mg/L	0.058U mg/L

Sample EB_PZ-159_011911 was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-159_011911	1/19/11	Fluoride	0.070 mg/L	PZ-159_011911_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Sulfate	0.37 mg/L	PZ-159_011911_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11753-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-37_011911_01 and RD-37_011911_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD (Limits)	Flags	A or P
	RD-37_011911_01	RD-37_011911_36			
Ammonia as N	0.055 mg/L	0.056 mg/L	2 (≤35)	-	-
pH	7.04 units	7.23 units	3 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11753-1	RD-39A_011911_01 RD-37_011911_01 RD-37_011911_36	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11753-1	HAR-31_011911_01 HAR-31_011911_01A PZ-159_011911_01 EB_PZ-159_011911 HAR-28_011911_01 HAR-28_011911_01A HAR-27_011911_01 HAR-27_011911_01A RD-08_011911_01 RD-37_011911_01 RD-37_011911_36 RD-39A_011911_01 RD-39B_011911_01 RD-33A_011911_01 RD-50_011911_01 RD-57_011911_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11753-1	HAR-31_011911_01	Ammonia as N	0.061U mg/L	A	B
280-11753-1	HAR-28_011911_01	Ammonia as N	0.063U mg/L	A	B
280-11753-1	RD-08_011911_01	Ammonia as N	0.13U mg/L	A	B
280-11753-1	RD-37_011911_01	Ammonia as N	0.055U mg/L	A	B
280-11753-1	RD-37_011911_36	Ammonia as N	0.056U mg/L	A	B
280-11753-1	RD-39A_011911_01	Ammonia as N	0.16U mg/L	A	B
280-11753-1	RD-39B_011911_01	Ammonia as N	0.058U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

LDC #: 24963A6 (63 → 53)

SDG #: 280-11787-1

Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/23/11

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.2), Conductivity (SM2510B), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as PO4 (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), TDS (SM2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(10,11)
X	Field blanks	SW	EB=4 ; FB= FB_011911_19 (SDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	HAR-31_011911_01	11	RD-37_011911_36	21	RD-39B_011911_01DUP	31	
2	HAR-31_011911_01A	12	RD-39A_011911_01	22		32	
3	PZ-159_011911_01	13	RD-39B_011911_01	23		33	
4	EB_PZ-159_011911	14	RD-33A_011911_01	24		34	
5	HAR-28_011911_01	15	RD-50_011911_01	25		35	
6	HAR-28_011911_01A	16	RD-57_011911_01	26		36	
7	HAR-27_011911_01	17	HAR-31_011911_01ADUP	27		37	
8	HAR-27_011911_01A	18	HAR-28_011911_01ADUP	28		38	
9	RD-08_011911_01	19	RD-39B_011911_01MS	29		39	
10	RD-37_011911_01	20	RD-39B_011911_01MSD	30		40	

Notes: _____

LDC #: 24941A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: CR
2nd reviewer: W

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,6,8		(pH) (TDS) Cl F (NO3) NO2 (SO4) PO4 (ALK) CN- (NH3) TKN TOC CR6+ (ClO4) (Cond) (Turb)
1,5,7		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ ClO4
3,4		pH TDS (Cl F NO3 NO2 SO4 PO4) ALK CN- NH3 TKN TOC CR6+ ClO4 (Br)
9-13		(pH) TDS Cl (F NO3) NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4)
14-16		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ (ClO4)
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
17		(pH) TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
18		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 (Cond)
19		pH TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4)
20		pH TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4)
21		pH TDS (Cl F) (NO3 NO2 SO4 PO4) ALK CN- NH3 TKN TOC CR6+ (ClO4) (Br)
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4

Comments:

LDC #: 24414A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: CR
2nd reviewer: W

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:	9060B					
Parameters:	pH					
Technical holding time:	48hrs					

Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
12	1/19/11 10:23	1/21/11 11:22	(50hrs)				J/UJ/P (H)
10	08:20	10:54	(50.5 hrs)				↓
11	↓	11:20	(51 hrs)				

LDC #: 24941A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: QR
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples:** 1, 5, 7, 9-13 **Reason Code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		1	5	9	10	11	12	13			
NH3-N	0.0627		0.3135	0.061	0.063	0.13	0.055	0.056	0.16	0.058			

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24963A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: GR
2nd Reviewer: M

METHOD: Inorganics, EPA Method See Cover
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason: F
Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 3

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		No Qualifiers							
Sulfate	0.37	1.85								

Sampling date: 1/19/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 3

Analyte	Blank ID	Action Limit	Sample Identification							
	4		No Qualifiers							
Fluroide	0.070	0.35								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC# 24941A6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: [illegible]
2nd Reviewer: [illegible]

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	10	11		
Ammonia as N	0.055	0.056	2	
pH (no units)	7.04	7.23	3	

V:\FIELD DUPLICATES\FD_inorganic\24941A6a.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 19, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	Total Petroleum Hydrocarbons as Gasoline
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11753-1

Sample Identification

RD-37_011911_36
TB_RD-37_011911
RD-37_011911_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

Sample TB_RD-37_011911 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-37_011911	1/19/11	TPH as gasoline (C6-C12)	6.0 ug/L	RD-37_011911_36 RD-37_011911_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-37_011911_01	TPH as gasoline (C6-C12)	6.7 ug/L	100U ug/L
RD-37_011911_36	TPH as gasoline (C6-C12)	10 ug/L	100U ug/L

IV. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Target Compound Identification

Raw data were not reviewed for this SDG.

VIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-37_011911_01 and RD-37_011911_36 were identified as field duplicates. No total petroleum hydrocarbons as gasoline was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RD-37_011911_01	RD-37_011911_36			
TPH as gasoline (C6-C12)	6.7	10	40 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1	RD-37_011911_36 TB_RD-37_011911 RD-37_011911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-11753-1	RD-37_011911_01	TPH as gasoline (C6-C12)	100U ug/L	A	T
280-11753-1	RD-37_011911_36	TPH as gasoline (C6-C12)	100U ug/L	A	T

LDC #: 24963A7 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/01/11
SDG #: 280-11753-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JDC
2nd Reviewer: [illegible]

METHOD: GC TPH as Gasoline(EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D = 4, 1
X.	Field blanks	SW	TB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-37_011911_36	11	MB 280-50911/6	21		31	
2	TB_RD-37_011911	12		22		32	
3	~~RD-39A_011911_01~~	13		23		33	
4	RD37_011911_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: (C6 - C12)

LDC #: 26963A7

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: VV6
2nd Reviewer: [illegible]

METHOD: __ GC __ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 1/19/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 1, 4 Code: T

Compound	Blank ID	Blank ID	Sample Identification							
	2		4	1						
$C_6 - C_{12}$	6.0		6.7/100U	10/100U						
CRQL										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#:24963A7

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer: V

METHOD: GC TPH as Gasoline (EPA SW 846 Method 8015B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications
	4	1		
C6-C12	6.7	10	40	

V:\FIELD DUPLICATES\24963A7.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 19, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Diesel

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11753-1

Sample Identification

HAR-31_011911_01
PZ-159_011911_01
EB_PZ-159_011911
HAR-28_011911_01
HAR-27_011911_01
RD-37_011911_01
RD-37_011911_36
RD-39A_011911_01
RD-39B_011911_01
RD-39B_011911_01MS
RD-39B_011911_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Total Petroleum Hydrocarbons (TPH) as Diesel.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as diesel contaminants were found in the method blanks.

Sample EB_PZ-159_011911 was identified as an equipment blank. No total petroleum hydrocarbons as diesel contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No total petroleum hydrocarbons as diesel contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-39B_011911_01MS/MSD (RD-39B_011911_01)	C8-C11	0 (10-115)	0 (10-115)	-	J (all detects) R (all non-detects)	A

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples RD-37_011911_01 and RD-37_011911_36 were identified as field duplicates. No total petroleum hydrocarbons as diesel were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1	RD-39B_011911_01	C8-C11	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-11753-1	HAR-31_011911_01 PZ-159_011911_01 EB_PZ-159_011911 HAR-28_011911_01 HAR-27_011911_01 RD-37_011911_01 RD-37_011911_36 RD-39A_011911_01 RD-39B_011911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Field Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

LDC #: 24963A8 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/01/11
SDG #: 280-11753-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	SW	
IVc.	Laboratory control samples	A	LCS 1b
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 6,7
X.	Field blanks	ND	EB = 3 FB = FB_011411_19 (from 280-11628-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-31_011911_01	11	RD-39B_011911_01MSD	21	MB 280-49905/1-A	31	
2	PZ-159_011911_01	12		22		32	
3	EB_PZ-159_011911	13		23		33	
4	HAR-28_011911_01	14		24		34	
5	HAR-27_011911_01	15		25		35	
6	RD-37_011911_01 D	16		26		36	
7	RD-37_011911_36 D	17		27		37	
8	RD-39A_011911_01	18		28		38	
9	RD-39B_011911_01	19		29		39	
10	RD-39B_011911_01MS	20		30		40	

Notes: _____

LDC #: 24963A8

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: JW
2nd Reviewer:

METHOD: / GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
(Y) N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
Y (N) N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	10/11	C8 - C11	0 (10-115)	0 (10-115)	( )	9	J/R/A (Q)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 19, 2011

LDC Report Date: March 2, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11753-1/A1A200495

Sample Identification

HAR-31_011911_01
HAR-28_011911_01
HAR-27_011911_01
RD-08_011911_01
RD-37_011911_01
RD-37_011911_36
RD-39A_011911_01
RD-39B_011911_01
RD-39B_011911_01MS
RD-39B_011911_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1/A1A200495	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples RD-37_011911_01 and RD-37_011911_36 were identified as field duplicates. No formaldehyde was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11753-1/A1A200495

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1/ A1A200495	HAR-31_011911_01 HAR-28_011911_01 HAR-27_011911_01 RD-08_011911_01 RD-37_011911_01 RD-37_011911_36 RD-39A_011911_01 RD-39B_011911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11753-1/A1A200495

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11753-1/A1A200495

No Sample Data Qualified in this SDG

LDC #: 24963A71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/6/11
SDG #: 280-11753-1/A1A200495 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 5, 6
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	HAR-31_011911_01	11	10 22 10 - MB	21		31	
2	HAR-28_011911_01	12		22		32	
3	HAR-27_011911_01	13		23		33	
4	RD-08_011911_01	14		24		34	
5	RD-37_011911_01 D	15		25		35	
6	RD-37_011911_36 D	16		26		36	
7	RD-39A_011911_01	17		27		37	
8	RD-39B_011911_01	18		28		38	
9	RD-39B_011911_01MS	19		29		39	
10	RD-39B_011911_01MSD	20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 19, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11753-1

Sample Identification

HAR-31_011911_01
HAR-28_011911_01
HAR-27_011911_01
RD-37_011911_01
RD-37_011911_36
RD-39A_011911_01
RD-39B_011911_01
RD-39B_011911_01MS
RD-39B_011911_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0048/DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Target Compound Identification

Raw data were not reviewed for this SDG.

VIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. System Performance

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

Samples RD-37_011911_01 and RD-37_011911_36 were identified as field duplicates. No hydrazines were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11753-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-1	HAR-31_011911_01 HAR-28_011911_01 HAR-27_011911_01 RD-37_011911_01 RD-37_011911_36 RD-39A_011911_01 RD-39B_011911_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11753-1

No Sample Data Qualified in this SDG

LDC #: 24963A76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-11753-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: V

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not required
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	(9,5)
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	HAR-31_011911_01	11	MB 280-50516/25	21		31	
2	HAR-28_011911_01	12		22		32	
3	HAR-27_011911_01	13		23		33	
4	RD-37_011911_01	14		24		34	
5	RD-37_011911_36	15		25		35	
6	RD-39A_011911_01	16		26		36	
7	RD-39B_011911_01	17		27		37	
8	RD-39B_011911_01MS	18		28		38	
9	RD-39B_011911_01MSD	19		29		39	
10		20		30		40	

Notes: _____

LDC #: 24963A76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: CR
2nd reviewer: V

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,4,5-7		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
2,3		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
FC:8,9		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
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		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 1, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1

Sample Identification

HAR-04_012511_01
TB_HAR-04_012511
HAR-03_012511_01
HAR-16_012511_01
HAR-16_012511_36
RD-46A_012511_01
RD-46B_012511_01
RD-33C_012511_01
TB_RD-33C_012511
RD-34B_012511_01
RD-70_012511_01
HAR-04_012511_01MS
HAR-04_012511_01MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-51586/7	2/1/11	Methylene chloride	0.425 ug/L	HAR-04_012511_01 TB_HAR-04_012511 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01 RD-33C_012511_01 TB_RD-33C_012511 RD-34B_012511_01 RD-70_012511_01
MB 280-51789/3	2/2/11	Methylene chloride	0.919 ug/L	HAR-04_012511_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_HAR-04_012511	Methylene chloride	0.32 ug/L	5.0U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
HAR-16_012511_01 (10x)	Methylene chloride	7.7 ug/L	50U ug/L
HAR-16_012511_36 (10x)	Methylene chloride	8.0 ug/L	50U ug/L
RD-46A_012511_01 (100x)	Methylene chloride	84 ug/L	500U ug/L
TB_RD-33C_012511	Methylene chloride	0.39 ug/L	5.0U ug/L

Samples TB_HAR-04_012511 and TB_RD-33C_012511 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_HAR-04_012511	1/25/11	Methylene chloride	0.32 ug/L	HAR-04_012511_01 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01
TB_RD-33C_012511	1/25/11	Methylene chloride	0.39 ug/L	RD-33C_012511_01 RD-34B_012511_01 RD-70_012511_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-04_012511_01MS/MSD (HAR-04_012511_01)	1,1,1-Trichloroethane	-	123 (78-120)	-	J (all detects)	A

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-04_012511_01MS/MSD (HAR-04_012511_01)	Methylene chloride	-	-35 (60-134)	-	J (all detects) R (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-16_012511_01	HAR-16_012511_36			
1,1-Dichloroethene	7.2	7.1	1 (≤35)	-	-
cis-1,2-Dichloroethene	42	42	0 (≤35)	-	-
Methylene chloride	7.7	8.0	4 (≤35)	-	-
Trichlorofluoromethane	5.6	5.3	6 (≤35)	-	-
Trichloroethene	3000	2700	11 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-1	HAR-04_012511_01	1,1,1-Trichloroethane	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-11896-1	HAR-04_012511_01	Methylene chloride	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-11896-1	HAR-04_012511_01 TB_HAR-04_012511 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01 RD-33C_012511_01 TB_RD-33C_012511 RD-34B_012511_01 RD-70_012511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11896-1	TB_HAR-04_012511	Methylene chloride	5.0U ug/L	A	B
280-11896-1	HAR-16_012511_01 (10x)	Methylene chloride	50U ug/L	A	B
280-11896-1	HAR-16_012511_36 (10x)	Methylene chloride	50U ug/L	A	B
280-11896-1	RD-46A_012511_01 (100x)	Methylene chloride	500U ug/L	A	B
280-11896-1	TB_RD-33C_012511	Methylene chloride	5.0U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

LDC #: 24963B1a

SDG #: 280-11896-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2/28/11

Page: 1 of 1

Reviewer: JVC

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 4, 5
XVII.	Field blanks	SW	TB = 2, 9

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

+ 1	HAR-04_012511_01	11	RD-70_012511_01	21	MB280-51789/16	31	
+ 2	TB_HAR-04_012511	12	HAR-04_012511_01MS	+ 22	MB280-51586/7	32	
+ 3	HAR-03_012511_01	13	HAR-04_012511_01MSD	23		33	
+ 4	HAR-16_012511_01 D	14		24		34	
+ 5	HAR-16_012511_36 D	15		25		35	
+ 6	RD-46A_012511_01	16		26		36	
+ 7	RD-46B_012511_01	17		27		37	
8	RD-33C_012511_01	18		28		38	
+ 9	TB_RD-33C_012511	19		29		39	
+ 10	RD-34B_012511_01	20		30		40	

VOCs + IPA = 1 - 7

VOCs = 8 - 10

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	lll. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24963B1C

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 2/01/11
Conc. units: ug/L
Associated Samples: 2 – 11 Code: B

Compound	Blank ID	Sample Identification								
	MB 280-51786/7	2	4 (10x)	5 (10x)	6 (100x)	9				
4.5 Methylene chloride (E)	0.425	0.32/5.0U	7.7/50U	8.0/50U	84/500U	0.39/5.0U				
Acetone										
CROL										

Blank analysis date: 2/02/11
Conc. units: ug/L
Associated Samples: 1 (ND)

Compound	Blank ID	Sample Identification								
	MB 280-51789/6									
Methylene chloride (E)	0.919									
Acetone										
CROL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 29963B19

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: TVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 1, 3-7

Compound	Blank ID 2	Blank ID	Sample Identification							
Sampling Date	1/25/11		4	5	6					
3.Y Methylene chloride (E)	0.32		(7.7)	(8.0)	(8.4)					
Acetone										
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 8 10 11 (ND)

Compound	Blank ID 9	Blank ID	Sample Identification							
Sampling Date	1/25/11									
Methylene chloride (E)	0.39									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24963 B1a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: e

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	12/13	N	( )	123 (78-120)	( )	1	J dets/A (Q)
		E	( )	-35 (60-134)	( )	↓	J/R/A ↓
		S	( )	-1987 (78-121)	( )	↓	* No qual
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		* Parent conc > 4x
			( )	( )	( )		Spike amt
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

LDC#:24963B1a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JV
2nd Reviewer: JA

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	4	5	RPD	
1,1-Dichloroethene	7.2	7.1	1	
cis-1,2-Dichloroethene	42	42	0	
Methylene chloride	7.7	8.0	4	
Trichlorofluoromethane	5.6	5.3	6	
Trichloroethene	3000	2700	11	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 1, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1

Sample Identification

HAR-04_012511_01
TB_HAR-04_012511
HAR-03_012511_01
HAR-16_012511_01
HAR-16_012511_36
RD-46A_012511_01
RD-46B_012511_01
HAR-04_012511_01MS
HAR-04_012511_01MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Sample TB_HAR-04_012511 was identified as a trip blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36 were identified as field duplicates. No 1,4-Dioxane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-16_012511_01	HAR-16_012511_36			
1,4-Dioxane	5.0	5.1	2 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-1	HAR-04_012511_01 TB_HAR-04_012511 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

LDC #: 24963B1b

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-11896-1

Level V

Laboratory: Test America Laboratories, Inc.

Date: 3/28/11

Page: 1 of 1

Reviewer: JV6

2nd Reviewer: L

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25 /11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 4, 5
XVII.	Field blanks	ND	TB = 2,

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-04_012511_01	11	MB 280-50893/5	21		31	
2	TB_HAR-04_012511	12		22		32	
3	HAR-03_012511_01	13		23		33	
4	HAR-16_012511_01	14		24		34	
5	HAR-16_012511_36	15		25		35	
6	RD-46A_012511_01	16		26		36	
7	RD-46B_012511_01	17		27		37	
8	HAR-04_012511_01MS	18		28		38	
9	HAR-04_012511_01MSD	19		29		39	
10		20		30		40	

LDC#:24941B1b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: JK
2nd Reviewer: [illegible]

METHOD: GC MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	4	5	RPD	
1,4-Dioxane	5.0	5.1	2	

V:\FIELD DUPLICATES\24963B1b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 1, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1/IUA2476

Sample Identification

RD-46B_012511_01
RD-46B_012511_01DUP

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-1/IUA2476	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-11896-1/IUA2476

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-1/IUA2476	RD-46B_012511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-11896-1/IUA2476

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-11896-1/IUA2476

No Sample Data Qualified in this SDG

LDC #: 24963B1c **VALIDATION COMPLETENESS WORKSHEET** Date: 2/28/11
SDG #: 280-11896-1/IUA2476 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-46B_012511_01	11		21		31	
2	RD-46B_012511_01DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 1, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1

Sample Identification

HAR-04_012511_01
HAR-03_012511_01
HAR-16_012511_01
HAR-16_012511_36
RD-46A_012511_01
RD-46B_012511_01
HAR-04_012511_01MS
HAR-04_012511_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36 were identified as field duplicates. No semivolatiles were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-1	HAR-04_012511_01 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

LDC #: 24963B2a **VALIDATION COMPLETENESS WORKSHEET** Date: 2/28/11
SDG #: 280-11896-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	JN(SW) A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 3.4
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

water

1	HAR-04_012511_01	11	MB 280-50689/1-A	21		31	
2	HAR-03_012511_01	12		22		32	
3	HAR-16_012511_01 D	13		23		33	
4	HAR-16_012511_36 D	14		24		34	
5	RD-46A_012511_01	15		25		35	
6	RD-46B_012511_01	16		26		36	
7	HAR-04_012511_01MS	17		27		37	
8	HAR-04_012511_01MSD	18		28		38	
9		19		29		39	
10		20		30		40	

phthalates + NB = All

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 16, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1

Sample Identification

HAR-04_012511_01
HAR-03_012511_01
HAR-16_012511_01
HAR-16_012511_36
RD-46A_012511_01
RD-46B_012511_01
HAR-04_012511_01MS
HAR-04_012511_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples FB_HAR-16_012511_19 and FB_RD-46A_012511_19 (both from SDG 280-11896-2) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36, RD-46A_012511_01 and RD-46A_012511_36 and (from SDG 280-11896-2) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-16_012511_01	and HAR-16_012511_36			
N-Nitrosodimethylamine	4.4	4.8	9 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RD-46A_012511_36	RD-46A_012511_01			
N-Nitrosodimethylamine	0.0096	0.005U	63 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-1	HAR-04_012511_01 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

LDC #: 24963B2b **VALIDATION COMPLETENESS WORKSHEET** Date: 2/28/11
SDG #: 280-11896-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_1 = 3, 4 D_2 = 5 + RD-46A_012511_36 (280-11896-2)
XVII.	Field blanks	ND	FB = FB_HAR-16_012511_19 = FB_RD-46A_012511_19

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-04_012511_01	11	MB 280-51059/1-A	21		31	
2	HAR-03_012511_01	12	MB 280-51403/1-A	22		32	
3	HAR-16_012511_01 D_1	13		23		33	
4	HAR-16_012511_36 D_1	14		24		34	
5	RD-46A_012511_01 D_2	15		25		35	
6	RD-46B_012511_01	16		26		36	
7	HAR-04_012511_01MS	17		27		37	
8	HAR-04_012511_01MSD	18		28		38	
9		19		29		39	
10		20		30		40	

Note: Samples extracted for 8 hours rather than 18 hrs.

LDC#:24963B2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: DV
2nd Reviewer: Q

METHOD: GC MS NDMA (EPA Method 1625)

(Y)N NA Were field duplicate pairs identified in this SDG?
Y(N) NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	3	4		
NDMA	4.4	4.8	9	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	RD-46A_012511_01	RD-46A_012511_36		
NDMA	0.0096	0.005U	63	NQ

V:\FIELD DUPLICATES\24963B2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: February 24, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1

Sample Identification

HAR-16_012511_01
HAR-16_012511_36
HAR-16_012511_01F
HAR-16_012511_36F
PZ-140_012511_01F
HAR-16_012511_01MS
HAR-16_012511_01MSD
PZ-140_012511_01FMS
PZ-140_012511_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.542 mg/L	HAR-16_012511_01 HAR-16_012511_36

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB-PZ-140_012411F (from SDG 280-11859-1) was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB-PZ-140_012411F	1/24/11	Boron Sodium Thallium	0.0038 mg/L 0.17 mg/L 0.000022 mg/L	PZ-140_012511_01F

Sample FB_011411_19F (from SDG 280-11638-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-140_012511_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-140_012511_01F	Thallium	0.000032 mg/L	0.000032U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
LCS	Chromium	124 (80-120)	PZ-140_012511_01F	J (all detects)	P

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11896-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36 and samples HAR-16_012511_01F and HAR-16_012511_36F were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-16_012511_01	HAR-16_012511_36			
Calcium	33	32	3 (≤35)	-	-
Magnesium	6.9	6.7	3 (≤35)	-	-
Manganese	0.00049	0.00092	61 (≤35)	NQ	-
Potassium	0.94	1.0	6 (≤35)	-	-
Sodium	55	55	0 (≤35)	-	-
Strontium	0.15	0.15	0 (≤35)	-	-
Zinc	0.064	0.065	2 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-16_012511_01F	HAR-16_012511_36F			
Calcium	34	34	0 (≤35)	-	-
Magnesium	7.3	7.2	1 (≤35)	-	-
Potassium	0.97	0.92	5 (≤35)	-	-
Sodium	56	55	2 (≤35)	-	-
Strontium	0.16	0.16	0 (≤35)	-	-
Zinc	0.070	0.068	3 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11896-1	PZ-140_012511_01F	Chromium	J (all detects)	P	Laboratory control samples (%R) (L)
280-11896-1	HAR-16_012511_01 HAR-16_012511_36 HAR-16_012511_01F HAR-16_012511_36F PZ-140_012511_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11896-1	PZ-140_012511_01F	Thallium	0.000032U mg/L	A	F

LDC #: 24963B4 **VALIDATION COMPLETENESS WORKSHEET** Date: 2-24-11
SDG #: 280-11896-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CP
2nd Reviewer: VC

METHOD: Metals (EPA SW 846 Method 6010B/6020/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	SW	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	SW	(1,2),(4,5)
XV	Field Blanks	SW	EB=EB_PZ-140_012411F ; FB=FB_011411_19F (SDG: 280-11859-1) (SDG: 280-11638-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: water

1	HAR-16_012511_01	11		21		31	
2	HAR-16_012511_36	12		22		32	
~~3~~	~~PZ-140_012511_01~~	13		23		33	
4	HAR-16_012511_01F	14		24		34	
5	HAR-16_012511_36F	15		25		35	
6	PZ-140_012511_01F	16		26		36	
7	HAR-16_012511_01MS	17		27		37	
8	HAR-16_012511_01MSD	18		28		38	
9	PZ-140_012511_01FMS	19		29		39	
10	PZ-140_012511_01FMSD	20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

LDC #: 24463B54

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1,2,4,5		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SC)
6		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, (Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B), Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
QC: 7,8		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SC)
9,10		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, Zn, Mo, B), Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V; Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, (B), Si, CN; (SC)
ICP-MS		Al, Sb, (As), Ba, Be, (Cd), Ca, (Cr), Co, Cu, Fe, (Pb), Mg, (Mn), Hg, (Ni), K, (Se), Ag, Na, (Tl), V, Zn, (Mo), B, Si, CN;
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

Comments: Mercury by CVAA if performed

LDC #: 24963B4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Page: 1 of 1
Reviewer: SR
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/L

Soil preparation factor applied: NA
Associated Samples: 1, 2

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
Na		0.542		2.71										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24963B4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/24/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 6

Analyte	Blank ID	Sample Identification										
	EB_PZ-140_012411F (SDG: 280-11859-1)	Action Level	6									
B	0.0038	0.019										
Na	0.17	0.85										
Tl	0.000022	0.00011	0.000032									

Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 6

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

No Total for this EB!!!!!!!!!!!!!!!!!!!!!

LDC #: 24963B4

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a laboratory control sample (LCS) analyzed for each matrix in this SDG?

Y (N) N/A Were all aqueous LCS percent recoveries (%R) within the control limits of 80-120% and all soil LCS %R within laboratory established control limits.

LEVEL IV ONLY:

Y N (N/A) Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	LCS ID	Matrix	Analyte	%R (limits)	Associated Samples	Qualifications
		LCS	W	Cr	124 (80-120)	6	Jdet/P (L)

Comments: _____

LCS.4SW

LDC#: 24963B4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of
Reviewer:
2nd Reviewer:

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	1	2		
Calcium	33	32	3	
Magnesium	6.9	6.7	3	
Manganese	0.00049	0.00092	61	NQ (<5xRL)
Potassium	0.94	1.0	6	
Sodium	55	55	0	
Strontium	0.15	0.15	0	
Zinc	0.064	0.065	2	

V:\FIELD DUPLICATES\FD_inorganic\24963B4.wpd

Analyte	Concentration (mg/L)		RPD (≤35)	
	4	5		
Calcium	34	34	0	
Magnesium	7.3	7.2	1	
Potassium	0.97	0.92	5	
Sodium	56	55	2	
Strontium	0.16	0.16	0	
Zinc	0.070	0.068	3	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: February 24, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1

Sample Identification

HAR-04_012511_01
HAR-04_012511_01A
HAR-03_012511_01
HAR-16_012511_01
HAR-16_012511_36
RD-46A_012511_01
RD-46B_012511_01
PZ-140_012511_01
PZ-140_012511_01A
RD-33C_012511_01
RD-34B_012511_01
HAR-04_012511_01MS
HAR-04_012511_01MSD
HAR-04_012511_01AMS
HAR-04_012511_01AMSD
HAR-04_012511_01ADUP
HAR-16_012511_01DUP
HAR-16_01251136DUP
PZ-140_012511_01MS
PZ-140_012511_01MSD
PZ-140_012511_01DUP
PZ-140_012511_01AMS
PZ-140_012511_01AMSD
PZ-140_012511_01ADUP

Introduction

This data review covers 24 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, Standard Method 2510B for Conductivity, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphorus, and Sulfate, EPA Method 314.0 for Perchlorate, EPA Method 9040B for pH, Standard Method 2540C for Total Dissolved Solids, EPA Method 180.1 for Turbidity, and EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
HAR-04_012511_01A HAR-04_012511_01ADUP	pH	97 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-03_012511_01	pH	96.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-16_012511_01	pH	98.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-16_012511_36	pH	98.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-46A_012511_01	pH	93.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-46B_012511_01	pH	94.25 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0592 mg/L	HAR-04_012511_01 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
HAR-04_012511_01	Ammonia as N	0.17 mg/L	0.17U mg/L
HAR-03_012511_01	Ammonia as N	0.14 mg/L	0.14U mg/L
HAR-16_012511_01	Ammonia as N	0.42 mg/L	0.42U mg/L
RD-46A_012511_01	Ammonia as N	0.12 mg/L	0.12U mg/L
RD-46B_012511_01	Ammonia as N	0.093 mg/L	0.093U mg/L

Sample EB_PZ-140_012411 (from SDG 280-11859-1) was identified as an equipment blank. No contaminant concentrations were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Sulfate	0.37 mg/L	PZ-140_012511_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11896-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	HAR-16_012511_01	HAR-16_012511_36			
Total alkalinity	110	110	0 (≤35)	-	-
Fluoride	0.36	0.34	6 (≤35)	-	-
Chloride	34	36	6 (≤35)	-	
Nitrate	21	22	5 (≤35)	-	
Sulfate	36	38	5 (≤35)	-	-
Ammonia as N	0.42	0.097	125 (≤35)	NQ	-
Total dissolved solids	290	300	3 (≤35)	-	-

Analyte	Concentration		RPD (Limits)	Flags	A or P
	HAR-16_012511_01	HAR-16_012511_36			
Perchlorate	130 ug/L	130 ug/L	0 (≤35)	-	-
Specific conductance	430 umhos/cm	450 umhos/cm	5 (≤35)	-	-
Turbidity	0.56 NTU	0.2U NTU	95 (≤35)	NQ	-
pH	6.64 units	6.60 units	1 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11896-1	HAR-04_012511_01A HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11896-1	HAR-04_012511_01 HAR-04_012511_01A HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01 PZ-140_012511_01 PZ-140_012511_01A RD-33C_012511_01 RD-34B_012511_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11896-1	HAR-04_012511_01	Ammonia as N	0.17U mg/L	A	B
280-11896-1	HAR-03_012511_01	Ammonia as N	0.14U mg/L	A	B
280-11896-1	HAR-16_012511_01	Ammonia as N	0.42U mg/L	A	B
280-11896-1	RD-46A_012511_01	Ammonia as N	0.12U mg/L	A	B
280-11896-1	RD-46B_012511_01	Ammonia as N	0.093U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

63

LDC #: 24941B6

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 2-23-11

SDG #: 280-11896-1

Page: 1 of 1

Laboratory: Test America Inc.

Reviewer: CR

2nd Reviewer: W

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.2) as PO_4, Conductivity (SM2510B), Bromide, Chloride, Fluoride, Nitrate-N, Nitrite-N, Orthophosphate, Sulfate (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), TDS (SM2540C), Turbidity (EPA Method 180.1), Hexavalent Cr and Dissolved Hexavalent Cr (7196A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/25/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(4, 5)
X	Field blanks	SW	EB = EB-PZ-140_012911 ; FB = FB-011411-19 (CSDG: 280-11859-1) (CSDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	HAR-04_012511_01	11	RD-34B_012511_01	21	PZ-140_012511_01DUP	31	
2	HAR-04_012511_01A	12	HAR-04_012511_01MS	22	PZ-140_012511_01AMS	32	
3	HAR-03_012511_01	13	HAR-04_012511_01MSD	23	PZ-140_012511_01AMSD	33	
4	HAR-16_012511_01	14	HAR-04_012511_01AMS	24	PZ-140_012511_01ADUP	34	
5	HAR-16_012511_36	15	HAR-04_012511_01AMSD	25		35	
6	RD-46A_012511_01	16	HAR-04_012511_01ADUP	26		36	
7	RD-46B_012511_01	17	HAR-16_012511_01DUP	27		37	
8	PZ-140_012511_01	18	HAR-16_01251136DUP	28		38	
9	PZ-140_012511_01A	19	PZ-140_012511_01MS	29		39	
10	RD-33C_012511_01	20	PZ-140_012511_01MSD	30		40	

Notes: _____

LDC #: 24941B6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CE
2nd reviewer: V

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
2		(pH) TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
3,6,7		(pH) TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO_4)
4,5		(pH) TDS (Cl F NO_3) NO_2 (SO_4) PO_4 (ALK) CN^- (NH_3) TKN TOC CR^{6+} ClO_4 (Cond) (Turb)
8		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC (~~CR^{6+}~~) ClO_4 (BC) (~~Diss Cr6+~~)
9		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR6) ClO_4 (Diss. Cr6+)
10,11		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC 12		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
13		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
14		pH TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
15		pH TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
16		(pH) TDS Cl (F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
17		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Cond)
18		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Turb) (Cond)
19		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (BC)
20		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (~~BC~~) (BC)
21		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (BC)
22		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR6+) ClO_4 (Diss Cr6+)
23		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR6) ClO_4 (Diss. Cr6+)
24		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Diss Cr6+)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 24941B6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: AR
2nd reviewer: ✓

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	9040B					
Parameters:	pH					
Technical holding time:	48hrs					

Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
2, 16	1/25/11 09:50	1/29/11 10:43	(97hrs)				J/UJ/P (H)
3	10:36	10:47	(96.25hrs)				↓
4	08:30	10:51	(98.25hrs)				
5	↓	10:53	(98.5hrs)				
6	13:32	10:58	(93.5hrs)				
7	12:48	10:59	(94.25hrs)				✓

LDC #: 24963B6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: CSZ
2nd Reviewer: W

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were blank analyses performed as required? If no, please see qualifications below.

Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples:** 1, 3-7 **Reason Code:** B

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		1	3	4	6	7						
NH3-N	0.0592		0.296	0.17	0.14	0.42 ~~0.097~~	0.12	0.093						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24963B6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer: LW

METHOD: Inorganics, EPA Method See Cover
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason: F
Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 8

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		No Qualifiers							
Sulfate	0.37	1.85								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC# 24963B6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: [illegible]
2nd Reviewer: [illegible]

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	4	5		
Total Alkalinity	110	110	0	
Fluoride	0.36	0.34	6	
Chloride	34	36	6	
Nitrate	21	22	5	
Sulfate	36	38	5	
Perchlorate (ug/L)	130	130	0	
Specific Conductance (umhos/cm)	430	450	5	
Ammonia as N	0.42	0.097	125	NQ (<5x RL)
TDS	290	300	3	
Turbidity (NTU)	0.56	0.2U	95	NQ (<5x RL)
pH (no units)	6.64	6.60	1	

V:\FIELD DUPLICATES\FD_inorganic\24963B6.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 2, 2011

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Diesel

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1

Sample Identification

HAR-04_012511_01
HAR-03_012511_01
HAR-16_012511_01
HAR-16_012511_36
RD-46A_012511_01
RD-46B_012511_01
PZ-140_012511_01
HAR-04_012511_01MS
HAR-04_012511_01MSD
PZ-140_012511_01MS
PZ-140_012511_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Total Petroleum Hydrocarbons (TPH) as Diesel.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as diesel contaminants were found in the method blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No total petroleum hydrocarbons as diesel contaminants were found in this blank.

Sample EB_PZ-140_ 012411 (from SDG 280-11859-1) was identified as an equipment blank. No total petroleum hydrocarbons as diesel contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-04_012511_01MS/MSD (HAR-04_012511_01)	C8-C11	-	0 (10-115)	-	J (all detects) R (all non-detects)	A

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36 were identified as field duplicates. No total petroleum hydrocarbons as diesel were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-1	HAR-04_012511_01	C8-C11	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-11896-1	HAR-04_012511_01 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01 PZ-140_012511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Laboratory Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Field Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

LDC #: 24963B8 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/28/11
SDG #: 280-11896-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SW
2nd Reviewer:

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	SW	
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 3, 4
X.	Field blanks	ND	FB = FB_011411_19 (from 280-11638-1) EB = EB_PZ-140_012411 (from 280-11859-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-04_012511_01	11	PZ-140_012511_01MSD	21	MB 280-50448/1-A	31	
2	HAR-03_012511_01	12		22		32	
3	HAR-16_012511_01 D	13		23		33	
4	HAR-16_012511_36 D	14		24		34	
5	RD-46A_012511_01	15		25		35	
6	RD-46B_012511_01	16		26		36	
7	PZ-140_012511_01	17		27		37	
8	HAR-04_012511_01MS	18		28		38	
9	HAR-04_012511_01MSD	19		29		39	
10	PZ-140_012511_01MS	20		30		40	

Notes:

LDC #: 24963B8

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: VV
2nd Reviewer: [illegible]

METHOD: / GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

(Y) N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	8/9	C_8 - C_{11}	( )	0 (16-115)	~~200~~ ( )	1	J/R/A (Q)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1

Sample Identification

HAR-04_012511_01
HAR-03_012511_01
HAR-16_012511_01
HAR-16_012511_36
RD-46A_012511_01
RD-46B_012511_01
PZ-140_012511_01A
HAR-04_012511_01MS
HAR-04_012511_01MSD
PZ-140_012511_01AMS
PZ-140_012511_01AMSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0048/DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Target Compound Identification

Raw data were not reviewed for this SDG.

VIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. System Performance

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36 were identified as field duplicates. No hydrazines were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	HAR-16_012511_01	HAR-16_012511_36			
Hydrazine	0.67U	1.1	49 (≤35)	NQ	-
Monomethyl hydrazine	0.24U	1.5	145 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11896-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-1	HAR-04_012511_01 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01 PZ-140_012511_01A	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11896-1

No Sample Data Qualified in this SDG

LDC #: 24963B76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-11896-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077/DV-WC-0048)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not required.
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(3,4)
X.	Field blanks	ND	FB= FB_011411_19 (SDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	HAR-04_012511_01	11	PZ-140_012511_01AMSD	21	MB280-50859/2	31	
2	HAR-03_012511_01	12		22	MB280-50861/2	32	
3	HAR-16_012511_01	13		23		33	
4	HAR-16_012511_36	14		24		34	
5	RD-46A_012511_01	15		25		35	
6	RD-46B_012511_01	16		26		36	
7	PZ-140_012511_01A	17		27		37	
8	HAR-04_012511_01MS	18		28		38	
9	HAR-04_012511_01MSD	19		29		39	
10	PZ-140_012511_01AMS	20		30		40	

Notes:

LDC #: 24963B76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: CR
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1-6		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
7		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
QC:8,9		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
10,11		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments: _____

LDC# 24963B76

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: [signature]
2nd Reviewer: [signature]

Hydrazines, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	3	4		
Hydrazine	0.67U	1.1	49	No Qual (<5xRL)
Monomethyl Hydrazine	0.24U	1.5	145	No Qual (<5xRL)

V:\FIELD DUPLICATES\FD_inorganic\24963B76.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 3, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-1/A1A260489

Sample Identification

HAR-04_012511_01
HAR-03_012511_01
HAR-16_012511_01
HAR-16_012511_36
RD-46A_012511_01
RD-46B_012511_01
PZ-140_012511_01
PZ-140_012511_01AMS
PZ-140_012511_01AMSD
HAR-04_012511_01MS
HAR-04_012511_01MSD

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_PZ-140_012411 (from SDG 280-11859-1) was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No formaldehyde was found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Formaldehyde	21 ug/L	PZ-140_012511_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-1/A1A260489	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36 were identified as field duplicates. No formaldehyde was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11896-1/A1A260489

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-1/ A1A260489	HAR-04_012511_01 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36 RD-46A_012511_01 RD-46B_012511_01 PZ-140_012511_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11896-1/A1A260489

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11896-1/A1A260489

No Sample Data Qualified in this SDG

LDC #: 24963B71 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/28/11

SDG #: 280-11896-1/A1A260489 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: JVC

2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 3, 4
X.	Field blanks	SW	FB = FB_011411_19 (from 280-11638-1) * EB = EB_PZ-140_012411 (from 280-11859-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-04_012511_01	11	102653-MB	21		31	
2	HAR-03_012511_01	12		22		32	
3	HAR-16_012511_01 D	13		23		33	
4	HAR-16_012511_36 D	14		24		34	
5	RD-46A_012511_01	15		25		35	
6	RD-46B_012511_01	16		26		36	
7	PZ-140_012511_01	17		27		37	
8	PZ-140_012511_01AMS	18		28		38	
9	PZ-140_012511_01AMSD	19		29		39	
10	HAR-04_012511_01 MS	20		30		40	

HAR-04_012511_01 MSD

Notes:

LDC #: 24963 B71

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: _____

METHOD: __ GC / HPLC

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/L

Sampling date: 1/14/11

Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: _____

Associated Samples: 7 (ND)

Compound	Blank ID	Blank ID	Sample Identification							
	FB-011411-19									
Formaldehyde	21									
CRQL										

Blank units: _____ Associated sample units: _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: _____

Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 25, 2011
LDC Report Date:	March 2, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11904-1/H1A270424

Sample Identification

PZ-140-012511-01
PZ-140-012511-01MS
PZ-140-012511-01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks

Sample EB_PZ-140_012411 (from SDG 280-11864-1) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11646-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD	0.70 pg/L	PZ-140-012511-01
		1,2,3,4,7,8-HxCDD	0.42 pg/L	
		1,2,3,7,8,9-HxCDD	0.48 pg/L	
		1,2,3,4,6,7,8-HpCDD	1.3 pg/L	
		OCDD	2.2 pg/L	
		1,2,3,7,8-PeCDF	0.48 pg/L	
		2,3,4,7,8-PeCDF	0.40 pg/L	
		1,2,3,6,7,8-HxCDF	0.50 pg/L	
		2,3,4,6,7,8-HxCDF	0.52 pg/L	
		1,2,3,7,8,9-HxCDF	0.78 pg/L	
		1,2,3,4,6,7,8-HpCDF	0.78 pg/L	
		1,2,3,4,7,8,9-HpCDF	0.74 pg/L	
		OCDF	2.0 pg/L	

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11904-1/H1A270424	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-11904-1/H1A270424

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11904-1/ H1A270424	PZ-140-012511-01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-11904-1/H1A270424

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-11904-1/H1A270424

No Sample Data Qualified in this SDG

LDC #: 24963C21 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/28/11
SDG #: 280-11904-1/H1A270424 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: SVL
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	FB = FB_0141L19 (from 280-11648-1) EB = EB_PZ-140_012411 (from 280-11864-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-140-012511-01	11	1027257 MB	21		31	
2	PZ-140-012511-01MS	12		22		32	
3	PZ-140-012511-01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 24963C21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** pg/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 1 (ND)

Compound (from 250-11646-1)	Blank ID ~~FB-011411-19~~	Sample Identification								
	FB_011411_19									
B	0.70									
C	0.47									
E	0.48									
F	1.3									
G	2.7									
I	0.48									
CRQL J	0.40									

Blank units: **Associated sample units:**
Sampling date:
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples:

Compound	Blank ID	Sample Identification								
✓	✓									
K	0.50									
M	0.52									
N	0.78									
O	0.78									
P	0.74									
Q	2.0									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: February 24, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUA2025

Sample Identification

HAR-17_012011_03
HAR-17_012011_03F

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Calcium Tin	0.122 mg/L 0.00119 mg/L	HAR-17_012011_03F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUA2025	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples HAR-17_012011_03 and HAR-17_012011_01 (from SDG 280-11787-1) and samples HAR-17_012011_03F and HAR-17_012011_01F (from SDG 280-11787-1) were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-17_012011_03	HAR-17_012011_01			
Antimony	0.00031	0.00017	58 (≤35)	NQ	-
Arsenic	0.0016	0.0012	29 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-17_012011_03	HAR-17_012011_01			
Barium	0.11	0.097	13 (≤35)	-	-
Cadmium	0.00015	0.00015	0 (≤35)	-	-
Calcium	160	160	0 (≤35)	-	-
Chromium	0.0045	0.0038	17 (≤35)	-	-
Cobalt	0.00070	0.00062	12 (≤35)	-	-
Copper	0.038	0.023	49 (≤35)	J (all detects)	A
Iron	19	11	53 (≤35)	J (all detects)	A
Lead	0.0062	0.0057	8 (≤35)	-	-
Magnesium	30	29	3 (≤35)	-	-
Manganese	0.75	0.52	36 (≤35)	J (all detects)	A
Nickel	0.0045	0.0065	36 (≤35)	NQ	-
Potassium	2.8	2.6	7 (≤35)	-	-
Selenium	0.0031	0.0024	25 (≤35)	-	-
Silver	0.00010U	0.000016	145 (≤35)	NQ	-
Sodium	100	120	18 (≤35)	-	-
Thallium	0.00020U	0.000067	100 (≤35)	NQ	-
Tin	0.0050U	0.00043	168 (≤35)	NQ	-
Vanadium	0.0029	0.0023	23 (≤35)	-	-
Zinc	1.0	1.0	0 (≤35)	-	-
Strontium	0.80	0.83	4 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	HAR-17_012011_03F	HAR-17_012011_01F			
Antimony	0.00030U	0.00014	73 (≤35)	NQ	-
Arsenic	0.00090U	0.00056	47 (≤35)	NQ	-
Barium	0.073	0.067	9 (≤35)	-	-
Cadmium	0.00010U	0.00011	10 (≤35)	-	-
Calcium	170	150	13 (≤35)	-	-
Chromium	0.0034	0.0027	23 (≤35)	-	-
Cobalt	0.00057	0.00062	8 (≤35)	-	-
Copper	0.0085	0.010	16 (≤35)	-	-
Iron	0.036	0.042	15 (≤35)	-	-
Lead	0.00023	0.00039	52 (≤35)	NQ	-
Magnesium	31	28	10 (≤35)	-	-
Manganese	0.037	0.033	11 (≤35)	-	-
Nickel	0.012	0.013	8 (≤35)	-	-
Potassium	2.5	2.5	0 (≤35)	-	-
Selenium	0.0025	0.0042	51 (≤35)	NQ	-
Silver	0.00010U	0.000022	128 (≤35)	NQ	-
Sodium	120	110	9 (≤35)	-	-
Thallium	0.00020U	0.000050	120 (≤35)	NQ	-
Tin	0.0050U	0.00018	186 (≤35)	NQ	-
Vanadium	0.00080U	0.00022	114 (≤35)	NQ	-
Zinc	0.37	0.44	17 (≤35)	-	-
Strontium	0.86	0.74	15 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG IUA2025

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUA2025	HAR-17_012011_03 HAR-17_012011_03F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)
IUA2025	HAR-17_012011_03	Copper Iron Manganese	J (all detects) J (all detects) J (all detects)	A	Field duplicates (RPD) (*XIV)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG IUA2025

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG IUA2025

No Sample Data Qualified in this SDG

LDC #: 24963D4 **VALIDATION COMPLETENESS WORKSHEET** Date: 2/23/11
SDG #: IUA2025 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CSZ
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	N	Client specified
VII.	Duplicate Sample Analysis	N	↓
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC		
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	(SDG: 280-11787-1)
XIV.	Split ~~Field~~ Duplicates	SW	(1, HAR-17_012011_01), (2, HAR-17_012011_01F)
XV	Field Blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	HAR-17_012011_03	11		21		31	
2	HAR-17_012011_03F	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

LDC #: 24963D4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1, 2		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN; (Sn Sr)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN; (S)
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

Comments: Mercury by CVAA if performed

LDC #: 24963C4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: GR
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 2

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
Ca		0.122		0.61										
Sn		0.00119		0.00595										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC#: 24963C4

VALIDATION FINDINGS WORKSHEET
Split Duplicates

Reviewer: CL
2nd Reviewer:

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	Qual: Parent Sample
	1	HAR-17_012011_01		
Antimony	0.00031	0.00017	58	NQ (<5x RL)
Arsenic	0.0016	0.0012	29	
Barium	0.11	0.097	13	
Cadmium	0.00015	0.00015	0	
Calcium	160	160	0	
Chromium	0.0045	0.0038	17	
Cobalt	0.00070	0.00062	12	
Copper	0.038	0.023	49	Jdet/A (*XIV)
Iron	19	11	53	Jdet/A (*XIV)
Lead	0.0062	0.0057	8	
Magnesium	30	29	3	
Manganese	0.75	0.52	36	Jdet/A (*XIV)
Nickel	0.0045	0.0065	36	NQ (<5x RL)
Potassium	2.8	2.6	7	
Selenium	0.0031	0.0024	25	
Silver	0.00010U	0.000016	145	NQ (<5x RL)
Sodium	100	120	18	
Thallium	0.00020U	0.000067	100	NQ (<5x RL)
Tin	0.0050U	0.00043	168	NQ (<5x RL)

LDC#: 24963C4

VALIDATION FINDINGS WORKSHEET
Split Duplicates

Reviewer: CR
2nd Reviewer: LW

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	1	HAR-17_012011_01		
Vanadium	0.0029	0.0023	23	
Zinc	1.0	1.0	0	
Strontium	0.80	0.83	4	

V:\FIELD DUPLICATES\FD_inorganic\24963C4.wpd

Analyte	Concentration (mg/L)		RPD (≤35)	Qual: Parameters
	2	HAR-17_012011_01F		
Antimony	0.00030U	0.00014	73	NQ (<5x RL)
Arsenic	0.00090U	0.00056	47	NQ (<5x RL)
Barium	0.073	0.067	9	
Cadmium	0.00010U	0.00011	10	
Calcium	170	150	13	
Chromium	0.0034	0.0027	23	
Cobalt	0.00057	0.00062	8	
Copper	0.0085	0.010	16	
Iron	0.036	0.042	15	
Lead	0.00023	0.00039	52	NQ (<5x RL)
Magnesium	31	28	10	
Manganese	0.037	0.033	11	
Nickel	0.012	0.013	8	

LDC#: 24963C4

VALIDATION FINDINGS WORKSHEET
Split Duplicates

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	2	HAR-17_012011_01F		
Potassium	2.5	2.5	0	
Selenium	0.0025	0.0042	51	NQ (<5x RL)
Silver	0.00010U	0.000022	128	NQ (<5x RL)
Sodium	120	110	9	
Thallium	0.00020U	0.000050	120	NQ (<5x RL)
Tin	0.0050U	0.00018	186	NQ (<5x RL)
Vanadium	0.00080U	0.00022	114	NQ (<5x RL)
Zinc	0.37	0.44	17	
Strontium	0.86	0.74	15	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 20, 2011
LDC Report Date:	March 2, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUA2025

Sample Identification

SH-11_012011_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_SH-11_012011 (from SDG 280-11787-1) was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Samples FB_SH-11_012011_19 (from SDG 280-11787-1) and FB_011411_19 (from SDG 280-11638-1) was identified as field blanks. No semivolatile contaminants were found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUA2025	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-11_012011_01 (from SDG 280-11787-1) and SH-11_012011_03 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-11_012011_03	SH-11_012011_01			
Bis(2-ethylhexyl)phthalate	19U	0.86	183 (≤35)	NQ	-
Diethyl phthalate	0.26	9.8U	190 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG IUA2025

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUA2025	SH-11_012011_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG IUA2025

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG IUA2025

No Sample Data Qualified in this SDG

LDC #: 24963D2a

SDG #: IUA2025

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 2/28/11

Page: 1 of 1

Reviewer: JVC

2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
II.	GC/MS Instrument performance check	~~N~~ A	
III.	Initial calibration	~~N~~ A	%RSD ≤ 30% r^2
IV.	Continuing calibration/ICV	~~N~~ A	CCV/ICV ≤ 25%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	~~N~~ A	
XII.	Compound quantitation/CRQLs	~~N~~ A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	~~N~~ A	
XV.	Overall assessment of data	A	
XVI.	Field ~~duplicates~~ Split	SW	S = 1 + SH-11_012011_01 from 280-11787-1
XVII.	Field blanks	ND	EB = EB_SH-11_012011 (from 280-11787-1) FB = FB_SH-11_012011_19 FB-011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-11_012011_03	11	IIA2499-BLK	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 24963b2a

VALIDATION FINDINGS CHECKLIST

Reviewer: JVC
2nd Reviewer: [illegible]

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 24963D2a

VALIDATION FINDINGS CHECKLIST

Reviewer: JV
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates / SD / FD				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC#:24963D2a

VALIDATION FINDINGS WORKSHEET
Field Split

Reviewer: JVe
2nd Reviewer: [illegible]

METHOD: GC MS SemivVolatiles (EPA SW 846 Method 8270C)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent Only)
	1	SH-11_012011_01		
Bis(2-ethylhexyl)phthalate	19U	0.86	183	NQ
Diethyl phthalate	0.26	9.8U	190	NQ

V:\FIELD DUPLICATES\24963D2a fs.wpd

LDC #: 29963 D2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (5.0 std)	Recalculated RRF (5.0 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	11/3/2010	NR (IS1)						
	MS65		NR (IS2)						
			Diethyl phthalate (IS3)	1.896	1.896	1.674	1.674	10.48	10.48
			Di-n-butyl phthalate (IS4)	1.521	1.521	1.435	1.435	5.88	5.89
			Bis(2-ethex)phthalate (IS5)	1.015	1.015	0.938	0.938	11.98	11.97
			NR (IS6)						

Conc IS/Cpd	Area cpd	Area IS
5/5		
5/5		
5/5	428327	225966
5/5	777135	510892
5/5	487595	480553
5/5		

Conc			Diethyl phthalate	Di-n-butyl phtha	bis(2-eh)phtha	
15.00			1.556	1.416	0.990	
0.25			1.440	1.255		
0.50			1.490	1.374		
1.00			1.887	1.406	0.718	
2.50			1.879	1.460	0.853	
5.00			1.896	1.521	1.015	
7.50			1.678	1.492	0.972	
10.00			1.640	1.519	1.004	
12.50			1.597	1.473	1.015	
X =	#DIV/0!	#DIV/0!	1.674	1.435	0.938	#DIV/0!
S =	#DIV/0!	#DIV/0!	0.175	0.084	0.112	#DIV/0!

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 24963 D2a

VALIDATION FINDINGS WORSHEET
Continuing Calibration Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
Ax = Area of compound
Cx = Concentration of compound
RRF = continuing calibration RRF
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	SSTD005A	01/26/11	NR (IS1)					
	MS49		NR (IS2)					
			Diethyl phthalate (IS3)	1.674	1.635	1.635	2.3	2.3
			Di-n-butyl phthalate (IS4)	1.435	1.451	1.451	1.1	1.1
			Bis(2-ethex)phthalate (IS5)	0.938	0.914	0.914	2.6	2.6
			NR (IS6)					
2								

Compound (Reference IS)	Concentration (IS/Cpd)	Area Cpd	Area IS	Area Cpd	Area IS
NR (IS1)					
NR (IS2)					
Diethyl phthalate (IS3)	5/5	407134	249063		
Di-n-butyl phthalate (IS4)	5/5	697996	480991		
Bis(2-ethex)phthalate (IS5)	5/5	415606	454714		
NR (IS6)					

LDC #: 21963 D2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: MB
2nd reviewer:

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1 (2x)

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	5.0	3.66	73	73	0
2-Fluorobiphenyl	↓	3.62	72	72	↓
Terphenyl-d14	↓	3.98	80	80	↓
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 24963 b2a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JV6
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 11A 2499-BS1 /BSD1

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
~~Phenol~~ Diethylphthalate	10	10	8.98	8.14	90	90	81	81	10	10
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 34963D2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVa
2nd reviewer: V

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #1 . Diethyl phthalate

Conc. = $\frac{(5571)(5)(2ml)(2)(1000)}{(252311)(1.674)(1000ml)(\quad)(\quad)}$

= 0.264

≈ 0.26 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 3, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25036:

SDG #	Fraction
IUB0492 280-11865-1/S101267-8990	1,2,3-Trichloropropane, Chlorinated Pesticides, Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual, July 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

V:\LOGIN\MWH\Boeing\25036COV.wpd

Attachment 1

Client Select IV

LDC #25036 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,2,3-TCP (524.2)		Pest (8081A)		Gross α & β (900.0)		Gamma Spect. (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)																							
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	IUB0492	03/03/11	03/24/11	1	0	1	0	-	-	-	-	-	-	-	-	-	-																				
B	280-11865-1/ S101267-8990	03/03/11	03/24/11	-	-	-	-	2	0	2	0	2	0	1	0	2	0																				
Total	A/PG			1	0	1	0	2	0	2	0	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 2, 2011
LDC Report Date:	March 11, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc./Weck Laboratories
Sample Delivery Group (SDG):	IUB0492/IB04025-01

Sample Identification

SH-03_020211_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0%.

IV. Continuing Calibration

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 30.0%.

The percent differences (%D) of the second source calibration standard were less than or equal to 30.0% for all compounds.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample EB_SH-03_020211 (from SDG 280-12173-1) was identified as an equipment blank. No 1,2,3-Trichloropropane was found in this blank.

Sample FB_SH-03_020211_19 (also from SDG 280-12173-1) was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0492/IB04025-01	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-03_020211_03 and SH_03_020211_01 (from SDG 280-12173-1) were identified as split samples. No 1,2,3-Trichloropropane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-03_020211_03	SH_03_020211_01			
1,2,3-Trichloropropane	0.0086	0.010	15 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG IUB0492/IB04025-01

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0492/ IB04025-01	SH-03_020211_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG IUB0492/IB04025-01

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG IUB0492/IB04025-01

No Sample Data Qualified in this SDG

LDC #: 25036A1c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/09/11

SDG #: IUB0492 / IB0405-01 Level IV Page: 1 of 1

Laboratory: Test America, Inc. / Weck Reviewer: JVC

2nd Reviewer: [signature]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	2 RSD ≤ 20 %
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 30 %
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd
VII.	Matrix spike/Matrix spike duplicates	N	↓
VIII.	Laboratory control samples	A	LCS 1
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 1 + SH-03_020211_01 (from 280-12173-1)
XVII.	Field blanks	ND	FB = FB_SH-03_020211_19 EB = EB_SH-03_020211

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-03_020211_03	11	WIB0460-Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25076 A1c
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: 9

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) < 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) < 30%?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?		✓		
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for this SDG?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			

LDC #: 25036 A 1C
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within +/-40% from the associated calibration standard?	✓			
Were retention times within - 30% of the last continuing calibration or +/- 50% of the initial calibration?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 25 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates (Soil)				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.		✓		
XVII. Field blanks				
Field blanks were identified in this SDG.				
Target compounds were detected in the field blanks.				

LDC#:25036A1c

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: JV
2nd Reviewer: fo

METHOD: GC MS 1,2,3-Trichloropropane (EPA Method 524.2)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	SH-03_020211_01	SH-03_020211_03		
1,2,3-Trichloropropane	0.0086	0.010	15	-

V:\FIELD DUPLICATES\25036A1c(FS).wpd

LDC #: 25036 A1C

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS 1,2,3-Trichlopropane (EPA Method 524.2)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL GCMS 4	2/07-08/11	1,2,3-TCP (1,2,3-TCP-d5)	0.9360	0.9356	0.9644	0.9644	3.87	3.87

Conc IS/Cpd	Area cpd	Area IS
50/50	450	481

Conc (ng/L)	1,2,3-TCP
5	1.03900
10	0.93300
20	0.98500
30	0.97300
50	0.93600
75	0.96400
100	0.96400
200	0.92100
X =	0.96438
S =	0.037

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25036 A 1C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS 1,2,3-Trichlopropane (EPA Method 524.2)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound,
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial)	Reported RRF (CCV)	Recalculated RRF (CCV)	Reported % D	Recalculated %D
1	41021008	2/10/2011	1,2,3-TCP (1,2,3-TCP-d5)	0.9644	1.0670	1.0670	NR	10.6
	GCMS 4							

Cis/Cx	Ax	Ais
50/5	43	403

LDC #: 25026A1C
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: W1B0460 - BS1 / BSD1

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
~~1,1-Dichloroethene~~ 1,2,3-TCP	0.005	0.005	0.00598	0.00553	120	120	111	111	8	8
Trichloroethene										
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25036 A1C
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: JC

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #1 , 1,2,3-TCP

Conc. = $\frac{(82)(50)(\quad)}{(456)(0.9844)(\quad)(\quad)}$

= $\frac{10.45 \text{ ng/L}}{1000}$

≈ 0.0105 ng/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 2, 2011

LDC Report Date: March 11, 2011

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUB0492

Sample Identification

SH-03_020211_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample FB_SH-03_020211_19 (from SDG 280-12173-1) was identified as a field blank. No chlorinated pesticide contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0492	All compounds reported below the RL.	J (all detects)	A

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples SH-03_020211_03 and SH_03_020211_01 (from SDG 280-12173) were identified as split samples. No chlorinated pesticides were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG IUB0492

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0492	SH-03_020211_03	All compounds reported below the RL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG IUB0492

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG IUB0492

No Sample Data Qualified in this SDG

LDC #: 25036A3a
SDG #: IUB0492
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level IV

Date: 3/09/11
Page: 1 of 1
Reviewer: VG
2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	%RSD ≤ 20% r
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 20%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec (Non-client)
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	
XII.	Compound quantitation and reported CRQLs	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates / Split	ND	S = 1 + SH-03_020211_01 (from 280-12173-1)
XV.	Field blanks	ND	FB = FB_SH-03_020211-19

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	SH-03_020211_03	11	IB0948-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25036A1 (1st)

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: [signature]

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	✓			
Did the initial calibration meet the curve fit acceptance criteria?	✓			
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ____ %R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recovieries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	✓			
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.			✓	
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	NA	✓		
Were the performance evaluation (PE) samples within the acceptance limits?	NA		✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?		✓		
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates / Split				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.		✓		
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC #: 25036 A3a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SVG
2nd Reviewer: [illegible]

METHOD: GC Pesticides (EPA SW 846 Method 8081)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (100 std)	Recalculated CF (100 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL GC54	1/10/2011	Endosulfan I (CLP1)	2275.36	2275.36	2124.46	2124.46	6.10	6.10
			Methoxychlor (CLP1)	945.01	945.01	921.31	921.31	4.04	4.04
			Endosulfan I (CLP2)	1548.85	1548.85	1564.01	1564.01	3.46	3.46
			Methoxychlor (CLP2)	555.18	555.18	595.41	595.41	8.01	8.01

Response

Conc	Endosulfan I A	Methoxychlor A	Endosulfan I B	Methoxychlor B
2	4201.79	1921.05	3333.15	1346.42
10	20101.45	9193.40	15401.70	5655.70
25	49074.98	21764.61	37267.72	13793.62
50	101371.98	44476.87	76730.25	28133.23
100	211369.11	90224.02	154884.91	55517.70
200	434584.54	180797.26	307387.62	116267.21
300	682607.00	283504.10	477937.87	185229.95
500	1166119.20	489640.17	800543.06	328074.25

CF

	CLP1		CLP2	
	Endusulfan I	Methoxychlor	Endusulfan I	Methoxychlor
	2101	961	1667	673
	2010	919	1540	566
	1963	871	1491	552
	2027	890	1535	563
	2114	902	1549	555
	2173	904	1537	581
	2275	945	1593	617
	2332	979	1601	656
S =	2124	921	1564	595
X =	130	37	54	48

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25036 A39

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: JV6
2nd Reviewer: e

METHOD: GC Pesticides (EPA SW 846 Method 8081)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = 100 * (N - C)/N Where: N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Average CF Conc	Reported CF (CC)	Recalculated CF (CC)	Reported % R	Recalculated %R
1	B08A008	2/8/2011	Endosulfan I (CLP1)	100.00	111.2	111.2	111.2	111.2
			Methoxychlor (CLP1)	100.00	102.5	102.5	102.5	102.5
			Endosulfan I (CLP2)	100.00	110.9	110.9	110.9	110.9
			Methoxychlor (CLP2)	100.00	100.5	100.5	100.5	100.5
2								

CCV1

Compound	CF	Response
Endosulfan I (CLP1)	2124.46	236215.86
Methoxychlor (CLP1)	921.31	94396.06
Endosulfan I (CLP2)	1564.01	173453.23
Methoxychlor (CLP2)	595.41	59842.00

LDC #: 25036 A3A

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene	chan B	250	138.5035	55	55	0
Decachlorobiphenyl	↓	↓	199.7417	80	80	↓
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 25036A3a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: OVG
2nd Reviewer: R

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD) LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: 1130948-BS1

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC	0.500	NA	0.481	NA	96	96				
4,4'-DDT	↓	↓	0.494	↓	99	99				
Aroclor 1260										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25036A3a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVC
2nd reviewer: [signature]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. _____ MD :

Conc. = _____

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Gross Alpha & Beta
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11865-1/S101267-8990

Sample Identification

RD-34C_012411_01D
RD-34C_012411_01DDUP
RD-34C_012411_01P

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) analysis was not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11865-1/S101267-8990	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Data Qualification Summary - SDG 280-11865-1/S101267-8990

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11865-1/S101267-8990	RD-34C_012411_01D RD-34C_012411_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

LDC #: 25036B36 (22) **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/14

SDG #: 280-11865-1/S101267-8990 Level V Page: 1 of 1

Laboratory: Test America, Inc./EBERLINE Services Reviewer: SR

2nd Reviewer: LC

METHOD: ~~Gamma Spectroscopy~~ Gross Alpha & Gross Beta (Method 900.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVa.	Laboratory control samples	A	
~~V.~~	~~Sample specific chemical recovery~~		
VI.	~~Radionuclide Quantitation & Implied Detection Limits~~ MDA	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-34C_012411_01 D	11		21		31	
2	RD-34C_012411_01DUP (8)	12		22		32	
3	(MW1) P	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particular

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	March 10, 2011
Matrix:	Water
Parameters:	Tritium
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11865-1/S101267-8990

Sample Identification

RD-34C_012411_01
RD-34C_012411_01DUP

Introduction

This data review covers 2 water samples listed on the cover sheet. The analyses were per EPA Method 906.0 for Tritium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11865-1/S101267-8990	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Tritium - Data Qualification Summary - SDG 280-11865-1/S101267-8990

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11865-1/S101267-8990	RD-34C_012411_01	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Tritium - Laboratory Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Tritium - Field Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

LDC #: 25027B34 (36)

VALIDATION COMPLETENESS WORKSHEET

Date: 3/7/14

SDG #: 280-11865-1/S101267-8990 Level V

Page: 1 of 1

Laboratory: Test America, Inc./EBERLINE Services

Reviewer: CF

2nd Reviewer: VV

METHOD: Tritium (EPA Method 906.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	D,R
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-34C_012411_01	11		21		31	
2	RD-34C_012411_01DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Gamma Spectroscopy
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11865-1/S101267-8990

Sample Identification

RD-34C_012411_01D
RD-34C_012411_01DDUP
RD-34C_012411_01P

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 901.1 for Gamma Spectroscopy.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11865-1/S101267-8990	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gamma Spectroscopy - Data Qualification Summary - SDG 280-11865-1/S101267-8990

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11865-1/S101267-8990	RD-34C_012411_01D RD-34C_012411_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Gamma Spectroscopy - Laboratory Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Gamma Spectroscopy - Field Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

LDC #: 25036B35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/4

SDG #: 280-11865-1/S101267-8990 Level V Page: 1 of 1

Laboratory : Test America Inc./EBERLINE Services Reviewer: CR

2nd Reviewer:

METHOD: Gamma Spectroscopy (EPA Method 901.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	D,R
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-34C_012411_01 D	11		21		31	
2	RD-34C_012411_01DUP D	12		22		32	
3	(All) P	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P= particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Isotopic Uranium
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11865-1/S101267-8990

Sample Identification

RD-34C_012411_01D
RD-34C_012411_01DDUP
RD-34C_012411_01P

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 908.0 for Isotopic Uranium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Tracer Recovery

All tracer recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11865-1/S101267-8990	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Isotopic Uranium - Data Qualification Summary - SDG 280-11865-1/S101267-8990

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11865-1/S101267-8990	RD-34C_012411_01D RD-34C_012411_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr, 2011
Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Isotopic Uranium - Field Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

LDC #: 25036B59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-11865-1/S101267-8990 Level V Page: 1 of 1
Laboratory: Test America Inc./EBERLINE Services Reviewer: CR
2nd Reviewer:

METHOD: Isotopic Uranium (Method 908.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	D,P
IVa.	Laboratory control samples	A	LCS
V.	Tracer Recovery	A	
VI.	Minimum Detectable Activity (MDA)	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-34C_012411_01 D	11		21		31	
2	RD-34C_012411_01DUP P	12		22		32	
3	(MS) P	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D= dissolved P= particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 24, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Strontium-90
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11865-1/S101267-8990

Sample Identification

RD-34C_012411_01D
RD-34C_012411_01DDUP
RD-34C_012411_01P

Samples appended with "D" were reported for dissolved
Samples appended with "P" were reported for particulate

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Carrier Recovery

All carrier recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11865-1/S101267-8990	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Strontium-90 - Data Qualification Summary - SDG 280-11865-1/S101267-8990

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11865-1/S101267-8990	RD-34C_012411_01D RD-34C_012411_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr, 2011
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-11865-1/S101267-8990

No Sample Data Qualified in this SDG

LDC #: 25036B61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-11865-1/S101267-8990 Level V Page: 1 of

Laboratory: Test America Inc./EBERLINE Services Reviewer: CR

2nd Reviewer:

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/24/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
IVc.	Carrier recovery	A	
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
XIV.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-34C_012411_01D	11		21		31	
2	RD-34C_012411_01DUP	12		22		32	
3	(x1) P	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 24, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24989:

SDG #	Fraction
280-11550-1/ S101103-8986 280-11619-1/ S101159-8987 280-11649-1/ S101174-8988 280-11753-2 280-11965-1/ H1A280498 280-12016-1/ A1A280415 280-12016-2 280-12020-1/H1A300403 280-12062-1/A1A290425 280-12062-2 280-12063-1/ H1B030429 280-12139-1/ IUB0592/ A1B030461 280-12167-1/ H1B040469 280-12189-1/ H1B050410 280-12215-1/ A1B040486 280-12223-1/H1B050407 280-12426-1	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Polynuclear Aromatic Hydrocarbons, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Wet Chemistry, Gasoline Range Organics, Diesel Range Organics, Formaldehyde, Hydrazine, Dioxins/Dibenzofurans, Gross Alpha & Beta, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004

- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV

LDC #24989 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane (8260B)		1,2,3-TCP (524.2)		SVOA (8270C)		PAH (8270C-SIM)		NDMA (1625)		Pest (8081A)		PCB (8082)		Metals (SW846)		Diss. Metals (SW846)		GRO (8015B)		DRO (OK-DEQ)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxin (8290)	
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
D	280-11753-2	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	280-11965-1/ H1A280498	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0
F	280-12016-1/ A1A280415	02/24/11	03/17/11	9	0	8	0	-	-	4	0	2	0	5	0	-	-	1	-	2	0	3	0	-	-	2	0	3	0	2	0	1	0	1	0	-	-
G	280-12016-2	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	7	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	280-12020-1/ H1A300403	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
I	280-12062-1/ A1A290425	02/24/11	03/17/11	9	0	9	0	-	-	5	0	-	-	6	0	0	-	2	0	3	0	5	0	-	-	6	0	6	0	4	0	2	0	2	0	-	-
I	280-12062-1/ A1A290425	02/24/11	03/17/11	0	0	0	0	-	-	4	0	-	-	0	0	4	-	-	-	0	0	0	0	-	-	0	0	0	0	0	0	0	0	0	0	-	-
J	280-12062-2	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	280-12063-1/ H1B030429	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0
L	280-12139-1/ IUB0592/ A1B030461	02/24/11	03/17/11	14	0	14	0	6	0	8	0	2	0	9	0	-	-	2	0	0	0	2	0	2	0	8	0	8	0	6	0	5	0	7	0	-	-
M	280-12167-1/ H1B040469	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0
N	280-12189-1/ H1B050410	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0
O	280-12215-1/ A1B040486	02/24/11	03/17/11	11	0	7	0	-	-	5	0	5	0	5	0	-	-	4	0	-	-	4	0	4	0	4	0	9	0	-	-	-	-	5	0	-	-
P	280-12223-1/ H1B050407	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0
Total	A/PG			43	0	38	0	6	0	26	0	9	0	37	0	4	0	9	0	5	0	14	0	6	0	20	0	26	0	12	0	8	0	15	0	13	291

Client Select IV

LDC #24989 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.1)		Br NO_2 O-PO_4		Cl SO_4 (300.0)		F NO_3 (300.0)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		Cr(VI) (7196A)		Diss Cr(VI) (7196A)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)	
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11550-1/ S101103-8986	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	0	12	0	12	0	6	0	12	0
B	280-11619-1/ S101159-8987	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	0	12	0	12	0	6	0	12	0

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Client Select IV

LDC #24989 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.1)		Br NO_2 O-PO_4		Cl SO_4 (300.0)		F NO_3 (300.0)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		Cr(VI) (7196A)		Diss Cr(VI) (7196A)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)	
C	280-11649-1/ S101174-8988	02/24/11	03/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	6	0	6	0	3	0	6	0
F	280-12016-1	02/24/11	03/17/11	2	0	3	0	1	0	3	0	4	0	2	0	3	0	3	0	2	0	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I	280-12062-1	02/24/11	03/17/11	2	0	4	0	2	0	4	0	5	0	2	0	3	0	2	0	2	0	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	280-12139-1	02/24/11	03/17/11	-	-	6	0	2	0	2	0	8	0	-	-	7	0	5	0	-	-	-	-	2	0	2	0	-	-	-	-	-	-	-	-	-	-
O	280-12215-1	02/24/11	03/17/11	-	-	-	-	5	0	5	0	5	0	-	-	1	0	-	-	-	-	-	-	4	0	4	0	-	-	-	-	-	-	-	-	-	-
Total	A/PG			4	0	13	0	10	0	14	0	22	0	4	0	14	0	10	0	4	0	4	0	6	0	6	0	30	0	30	0	30	0	15	0	30	246

Client Select IV

LDC #24989 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	S= (4500D)		Cyanide (9012A)																															
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
Q	280-12426-1	02/24/11	03/17/11	3	0	3	0																														
Total	A/PG			3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 12, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Gross Alpha & Beta

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11550-1/S101103-8986

Sample Identification

EB_RD-96_011211D
RD-96_011211_01D
RD-59A_011211_01D
RD-59B_011211_01D
RD-59B_011211_36D
RD-59C_011211_01D
EB_RD-96_011211P
RD-96_011211_01P
RD-59A_011211_01P
RD-59B_011211_01P
RD-59B_011211_36P
RD-59C_011211_01P
EB_RD-96_011211DDUP

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 13 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Samples EB_RD-96_011211D and EB_RD-96_011211P were identified as equipment blanks. No gross alpha or beta contaminants were found in these blanks.

Samples FB_RD-98_111411_19D and FB_RD-98_111411_19P (both from SDG 280-11649-1/S101174-8988) were identified as field blanks. No gross alpha or beta contaminants were found in these blanks.

V. Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) analysis was not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11550-1/S101103-8986	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

Samples RD-59B_011211_01D and RD-59B_011211_36D and samples RD-59B_011211_01P and RD-59B_011211_36P were identified as field duplicates. No gross alpha or beta was detected in any of the samples with the following exceptions:

Compound	Concentration (pCi/L)		RPD (Limits)	Flags	A or P
	RD-59B_011211_01D	RD-59B_011211_36D			
Gross Alpha	2.35	1.41	50 (≤35)	NQ	-
Gross Beta	3.84	-0.748U	297 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Data Qualification Summary - SDG 280-11550-1/S101103-8986

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11550-1/S101103-8986	EB_RD-96_011211D RD-96_011211_01D RD-59A_011211_01D RD-59B_011211_01D RD-59B_011211_36D RD-59C_011211_01D EB_RD-96_011211P RD-96_011211_01P RD-59A_011211_01P RD-59B_011211_01P RD-59B_011211_36P RD-59C_011211_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

LDC #: 24989A36 (2nd)

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/1/11
Page: 1 of 1
Reviewer: CR
2nd Reviewer: [illegible]

SDG #: 280-11550-1/S101103-8986
Laboratory: Test America/EBERLINE Services

METHOD: Gross Alpha and Gross Beta (Method 900.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates:1/12/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	SW	(4,5) *(10,11)
IX.	Field blanks	ND	EB=1,7 ; FB= FB_011411-19D, FB_011411-19P

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
*ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate (SDG: 280-11649-1/S101174879B8)
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	EB_RD-96_011211D	11	RD-59B_011211_36P	21		31	
2	RD-96_011211_01D	12	RD-59C_011211_01P	22		32	
3	RD-59A_011211_01D	13	EB_RD-96_011211DDUP	23		33	
4	RD-59B_011211_01D	14		24		34	
5	RD-59B_011211_36D	15		25		35	
6	RD-59C_011211_01D	16		26		36	
7	EB_RD-96_011211P	17		27		37	
8	RD-96_011211_01P	18		28		38	
9	RD-59A_011211_01P	19		29		39	
10	RD-59B_011211_01P	20		30		40	

Notes: D=Dissolved; P=Particulate

LDC# 24989A36

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: of
Reviewer:
2nd Reviewer:

Radiochemistry, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Isotope	Activity (pCi/L)		RPD (≤35)	
	4	5		
Gross Alpha	2.35	1.41	50	NQ (<5x RL)
Gross Beta	3.84	-0.748U	297	NQ (<5x RL)

V:\FIELD DUPLICATES\FD_inorganic\24989A36.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 12, 2011

LDC Report Date: March 1, 2011

Matrix: Water

Parameters: Tritium

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11550-1/S101103-8986

Sample Identification

EB_RD-96_011211
RD-96_011211_01
RD-59A_011211_01
RD-59B_011211_01
RD-59B_011211_36
RD-59C_011211_01
EB_RD-96_011211DUP

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 906.0 for Tritium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Sample EB_RD-96_011211 was identified as an equipment blank. No tritium was found in this blank.

Sample FB_011411_19 (from SDG 280-11649-1/S101174-8988) was identified as a field blank. No tritium was found in this blank.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11550-1/S101103-8986	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-59B_011211_01 and RD-59B_011211_36 were identified as field duplicates. No tritium was detected in any of the samples.

Boeing SSFL GW 1st Qtr
Tritium - Data Qualification Summary - SDG 280-11550-1/S101103-8986

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11550-1/S101103-8986	EB_RD-96_011211 RD-96_011211_01 RD-59A_011211_01 RD-59B_011211_01 RD-59B_011211_36 RD-59C_011211_01	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Tritium - Laboratory Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Tritium - Field Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

LDC #: 24989A34 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11
SDG #: 280-11550-1/S101103-8986 Level V Page: 1 of 1
Laboratory: Test America/EBERLINE Services Reviewer: CF
2nd Reviewer: [illegible]

METHOD: Tritium (EPA Method 906.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	ND	(4,5)
IX	Field blanks	ND	EB=1 ; FB=FB_011411_19 (SDG: 280-11649-1/S101174-8988)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	EB_RD-96_011211	11		21		31	
2	RD-96_011211_01	12		22		32	
3	RD-59A_011211_01	13		23		33	
4	RD-59B_011211_01	14		24		34	
5	RD-59B_011211_36	15		25		35	
6	RD-59C_011211_01	16		26		36	
7	EB_RD-96_011211DUP	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 12, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Gamma Spectroscopy

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11550-1/S101103-8986

Sample Identification

EB_RD-96_011211D
RD-96_011211_01D
RD-59A_011211_01D
RD-59B_011211_01D
RD-59B_011211_36D
RD-59C_011211_01D
EB_RD-96_011211P
RD-96_011211_01P
RD-59A_011211_01P
RD-59B_011211_01P
RD-59B_011211_36P
RD-59C_011211_01P
EB_RD-96_011211DDUP

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 13 water samples listed on the cover sheet. The analyses were per EPA Method 901.1 for Gamma Spectroscopy.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Samples EB_RD-96_011211D and EB_RD-96_011211P were identified as equipment blanks. No gamma emitting radionuclides were found in these blanks.

Samples FB_011411_19D and FB_011411_19P (both from SDG 280-11649-1/S101174-8988) were identified as field blanks. No gamma emitting radionuclides were found in these blanks.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11550-1/S101103-8986	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-59B_011211_01D and RD-59B_011211_36D and samples RD-59B_011211_01P and RD-59B_011211_36P were identified as field duplicates. No gamma emitting radionuclides were detected in any of the samples.

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Data Qualification Summary - SDG 280-11550-1/S101103-8986

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11550-1/S101103-8986	EB_RD-96_011211D RD-96_011211_01D RD-59A_011211_01D RD-59B_011211_01D RD-59B_011211_36D RD-59C_011211_01D EB_RD-96_011211P RD-96_011211_01P RD-59A_011211_01P RD-59B_011211_01P RD-59B_011211_36P RD-59C_011211_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Laboratory Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Field Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

LDC #: 24989A35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11
SDG #: 280-11550-1/S101103-8986 Level V Page: 1 of 1
Laboratory : Test America/EBERLINE Services Reviewer: CC
2nd Reviewer: V

METHOD: Gamma Spectroscopy (EPA Method 901.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates:1/12/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	ND	(4,5), (10,11)
IX	Field blanks	ND	EB=1,7 ; FB= FB-011411-19D, FB-011411-19P

(SDG: 280-11649-1/S01174-8988)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	EB_RD-96_011211D	11	RD-59B_011211_36P	21		31	
2	RD-96_011211_01D	12	RD-59C_011211_01P	22		32	
3	RD-59A_011211_01D	13	EB_RD-96_011211DDUP	23		33	
4	RD-59B_011211_01D	14		24		34	
5	RD-59B_011211_36D	15		25		35	
6	RD-59C_011211_01D	16		26		36	
7	EB_RD-96_011211P	17		27		37	
8	RD-96_011211_01P	18		28		38	
9	RD-59A_011211_01P	19		29		39	
10	RD-59B_011211_01P	20		30		40	

Notes: D=Dissolved; P=Particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 12, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Isotopic Uranium

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11550-1/S101103-8986

Sample Identification

EB_RD-96_011211D
RD-96_011211_01D
RD-59A_011211_01D
RD-59B_011211_01D
RD-59B_011211_36D
RD-59C_011211_01D
EB_RD-96_011211P
RD-96_011211_01P
RD-59A_011211_01P
RD-59B_011211_01P
RD-59B_011211_36P
RD-59C_011211_01P
EB_RD-96_011211DDUP

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 13 water samples listed on the cover sheet. The analyses were per EPA Method 908.0 for Isotopic Uranium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Samples EB_RD-96_011211D and EB_RD-96_011211P were identified as equipment blanks. No isotopic uranium was found in these blanks.

Samples FB_011411_19D and FB_011411_19P (both from SDG 280-11649-1/S101174-8988) were identified as field blanks. No isotopic uranium was found in these blanks.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Tracer Recovery

All tracer recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11550-1/S101103-8986	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

Samples RD-59B_011211_01D and RD-59B_011211_36D and samples RD-59B_011211_01P and RD-59B_011211_36P were identified as field duplicates. No isotopic uranium was detected in any of the samples with the following exceptions:

Compound	Concentration (pCi/L)		RPD (Limits)	Flags	A or P
	RD-59B_011211_01D	RD-59B_011211_36D			
Uranium-233/234	0.259	0.254	2 (≤35)	-	-
Uranium-238	0.128	0.106	19 (≤35)	-	-

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Data Qualification Summary - SDG 280-11550-1/S101103-8986

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11550-1/S101103-8986	EB_RD-96_011211D RD-96_011211_01D RD-59A_011211_01D RD-59B_011211_01D RD-59B_011211_36D RD-59C_011211_01D EB_RD-96_011211P RD-96_011211_01P RD-59A_011211_01P RD-59B_011211_01P RD-59B_011211_36P RD-59C_011211_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Field Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

LDC #: 24989A59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/11/11

SDG #: 280-11550-1/S101103-8986 Level V Page: 1 of 1

Laboratory: Test America/EBERLINE Services Reviewer: SE

2nd Reviewer: W

METHOD: Isotopic Uranium (Method 908.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/12/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVa.	Laboratory control samples	A	LCS
V.	Tracer Recovery	A	
VI.	Minimum Detectable Activity (MDA)	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(4,5); (10, 11)
X	Field blanks	ND	EB= 1, 7 ; FB= FB_011411_19D, FB_011411_19P

(SDG 280-11649-1/SD1174-8988)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: WATER

1	EB_RD-96_011211D	11	RD-59B_011211_36P	21		31	
2	RD-96_011211_01D	12	RD-59C_011211_01P	22		32	
3	RD-59A_011211_01D	13	EB_RD-96_011211DDUP	23		33	
4	RD-59B_011211_01D	14		24		34	
5	RD-59B_011211_36D	15		25		35	
6	RD-59C_011211_01D	16		26		36	
7	EB_RD-96_011211P	17		27		37	
8	RD-96_011211_01P	18		28		38	
9	RD-59A_011211_01P	19		29		39	
10	RD-59B_011211_01P	20		30		40	

Notes: D=Dissolved; P=Particulate

LDC# 24989A59

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: CL
2nd Reviewer: MV

Radiochemistry, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Isotope	Activity (pCi/L)		RPD (≤35)	
	4	5		
Uranium-233/234	0.259	0.254	2	
Uranium-238	0.128	0.106	19	

V:\FIELD DUPLICATES\FD_inorganic\24989A59.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 12, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Strontium-90

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11550-1/S101103-8986

Sample Identification

EB_RD-96_011211D
RD-96_011211_01D
RD-59A_011211_01D
RD-59B_011211_01D
RD-59B_011211_36D
RD-59C_011211_01D
EB_RD-96_011211P
RD-96_011211_01P
RD-59A_011211_01P
RD-59B_011211_01P
RD-59B_011211_36P
RD-59C_011211_01P
EB_RD-96_011211DDUP

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 13 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Samples EB_RD-96_011211D and EB_RD-96_011211P were identified as equipment blanks. No strontium-90 was found in these blanks.

Samples FB_011411_19D and FB_011411_19P (both from SDG 280-11649-1/S101174-8988) were identified as field blanks. No strontium-90 was found in these blanks.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Carrier Recovery

All carrier recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11550-1/S101103-8986	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

Samples RD-59B_011211_01D and RD-59B_011211_36D and samples RD-59B_011211_01P and RD-59B_011211_36P were identified as field duplicates. No strontium-90 was detected in any of the samples.

Boeing SSFL GW 1st Qtr
Strontium-90 - Data Qualification Summary - SDG 280-11550-1/S101103-8986

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11550-1/S101103-8986	EB_RD-96_011211D RD-96_011211_01D RD-59A_011211_01D RD-59B_011211_01D RD-59B_011211_36D RD-59C_011211_01D EB_RD-96_011211P RD-96_011211_01P RD-59A_011211_01P RD-59B_011211_01P RD-59B_011211_36P RD-59C_011211_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-11550-1/S101103-8986

No Sample Data Qualified in this SDG

LDC #: 24989A61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11
SDG #: 280-11550-1/S101103-8986 Level V Page: 1 of 1
Laboratory: Test America/EBERLINE Services Reviewer: CC
2nd Reviewer: W

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates:1/12/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
IVc.	Carrier recovery	A	
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	ND	(4,5), (10,11)
XIV	Field blanks	ND	EB=1,7; FB=FB_011411_19D, FB_011411_19P

(SDG: 280-11649-1 /S101174-8188)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	EB_RD-96_011211D	11	RD-59B_011211_36P	21		31	
2	RD-96_011211_01D	12	RD-59C_011211_01P	22		32	
3	RD-59A_011211_01D	13	EB_RD-96_011211DDUP	23		33	
4	RD-59B_011211_01D	14		24		34	
5	RD-59B_011211_36D	15		25		35	
6	RD-59C_011211_01D	16		26		36	
7	EB_RD-96_011211P	17		27		37	
8	RD-96_011211_01P	18		28		38	
9	RD-59A_011211_01P	19		29		39	
10	RD-59B_011211_01P	20		30		40	

Notes: D=Dissolved; P=Particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 13, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Gross Alpha & Beta
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11619-1/S101159-8987

Sample Identification

RD-13_011311_01D
RD-19_011311_01D
RD-98_011311_01D
RD-18_011311_01D
RD-14_011311_01D
RD-33B_011311_01D
RD-98_011311_01DMS
RD-98_011311_01DMSD
RD-98_011311_01DDUP
RD-13_011311_01P
RD-19_011311_01P
RD-98_011311_01P
RD-18_011311_01P
RD-14_011311_01P
RD-33B_011311_01P
RD-98_011311_01PMS
RD-98_011311_01PMSD

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 17 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11619-1/S101159-8987	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Data Qualification Summary - SDG 280-11619-1/S101159-8987

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11619-1/S101159-8987	RD-13_011311_01D RD-19_011311_01D RD-98_011311_01D RD-18_011311_01D RD-14_011311_01D RD-33B_011311_01D RD-13_011311_01P RD-19_011311_01P RD-98_011311_01P RD-18_011311_01P RD-14_011311_01P RD-33B_011311_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

LDC #: 24989B36

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/1/11

SDG #: 280-11619-1/S101159-8987

Page: 1 of 1

Laboratory: Test America/EBERLINE Services

Reviewer: CF

2nd Reviewer:

METHOD: Gross Alpha and Gross Beta (Method 900.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/D, D, P
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX.	Field blanks	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-13_011311_01D	11	RD-19_011311_01P	21		31	
2	RD-19_011311_01D	12	RD-98_011311_01P	22		32	
3	RD-98_011311_01D	13	RD-18_011311_01P	23		33	
4	RD-18_011311_01D	14	RD-14_011311_01P	24		34	
5	RD-14_011311_01D	15	RD-33B_011311_01P	25		35	
6	RD-33B_011311_01D	16	(MNZ) MS	26		36	
7	RD-98_011311_01DMS	17	↓ MSD	27		37	
8	RD-98_011311_01DMSD	18		28		38	
9	RD-98_011311_01DDUP	19		29		39	
10	RD-13_011311_01P	20		30		40	

Notes: D=Dissolved; P=Particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 13, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	Tritium
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11619-1/S101159-8987

Sample Identification

RD-13_011311_01
RD-19_011311_01
RD-98_011311_01
RD-18_011311_01
RD-14_011311_01
RD-33B_011311_01
RD-98_011311_01MS
RD-98_011311_01MSD
RD-98_011311_01DUP

Introduction

This data review covers 9 water samples listed on the cover sheet. The analyses were per EPA Method 906.0 for Tritium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11619-1/S101159-8987	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Tritium - Data Qualification Summary - SDG 280-11619-1/S101159-8987

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11619-1/S101159-8987	RD-13_011311_01 RD-19_011311_01 RD-98_011311_01 RD-18_011311_01 RD-14_011311_01 RD-33B_011311_01	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Tritium - Laboratory Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Tritium - Field Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

LDC #: 24989B34

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-11619-1/S101159-8987 Level V

Laboratory: Test America/EBERLINE Services

Date: 3/1/11
Page: 1 of 1
Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Tritium (EPA Method 906.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/D, Dup
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-13_011311_01	11		21		31	
2	RD-19_011311_01	12		22		32	
3	RD-98_011311_01	13		23		33	
4	RD-18_011311_01	14		24		34	
5	RD-14_011311_01	15		25		35	
6	RD-33B_011311_01	16		26		36	
7	RD-98_011311_01MS	17		27		37	
8	RD-98_011311_01MSD	18		28		38	
9	RD-98_011311_01DUP	19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 13, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Gamma Spectroscopy

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11619-1/S101159-8987

Sample Identification

RD-13_011311_01D
RD-19_011311_01D
RD-98_011311_01D
RD-18_011311_01D
RD-14_011311_01D
RD-33B_011311_01D
RD-98_011311_01DMS
RD-98_011311_01DMSD
RD-98_011311_01DDUP
RD-13_011311_01P
RD-19_011311_01P
RD-98_011311_01P
RD-18_011311_01P
RD-14_011311_01P
RD-33B_011311_01P
RD-98_011311_01PMS
RD-98_011311_01PMSD

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 17 water samples listed on the cover sheet. The analyses were per EPA Method 901.1 for Gamma Spectroscopy.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11619-1/S101159-8987	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Data Qualification Summary - SDG 280-11619-1/S101159-8987

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11619-1/S101159-8987	RD-13_011311_01D RD-19_011311_01D RD-98_011311_01D RD-18_011311_01D RD-14_011311_01D RD-33B_011311_01D RD-13_011311_01P RD-19_011311_01P RD-98_011311_01P RD-18_011311_01P RD-14_011311_01P RD-33B_011311_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Laboratory Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Field Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

LDC #: 24989B35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11

SDG #: 280-11619-1/S101159-8987 Level V Page: 1 of 1

Laboratory : Test America/EBERLINE Services Reviewer: CC

2nd Reviewer: LW

METHOD: Gamma Spectroscopy (EPA Method 901.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/D, DUP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-13_011311_01D	11	RD-19_011311_01P	21		31	
2	RD-19_011311_01D	12	RD-98_011311_01P	22		32	
3	RD-98_011311_01D	13	RD-18_011311_01P	23		33	
4	RD-18_011311_01D	14	RD-14_011311_01P	24		34	
5	RD-14_011311_01D	15	RD-33B_011311_01P	25		35	
6	RD-33B_011311_01D	16	(N12) MS	26		36	
7	RD-98_011311_01DMS	17	MSD	27		37	
8	RD-98_011311_01DMSD	18		28		38	
9	RD-98_011311_01DDUP	19		29		39	
10	RD-13_011311_01P	20		30		40	

Notes: D=Dissolved; P=Particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 13, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Isotopic Uranium

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11619-1/S101159-8987

Sample Identification

RD-13_011311_01D
RD-19_011311_01D
RD-98_011311_01D
RD-18_011311_01D
RD-14_011311_01D
RD-33B_011311_01D
RD-98_011311_01DMS
RD-98_011311_01DMSD
RD-98_011311_01DDUP
RD-13_011311_01P
RD-19_011311_01P
RD-98_011311_01P
RD-18_011311_01P
RD-14_011311_01P
RD-33B_011311_01P
RD-98_011311_01PMS
RD-98_011311_01PMSD

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 17 water samples listed on the cover sheet. The analyses were per EPA Method 908.0 for Isotopic Uranium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Tracer Recovery

All tracer recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11619-1/S101159-8987	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Data Qualification Summary - SDG 280-11619-1/S101159-8987

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11619-1/S101159-8987	RD-13_011311_01D RD-19_011311_01D RD-98_011311_01D RD-18_011311_01D RD-14_011311_01D RD-33B_011311_01D RD-13_011311_01P RD-19_011311_01P RD-98_011311_01P RD-18_011311_01P RD-14_011311_01P RD-33B_011311_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Field Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

LDC #: 24989B59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/14

SDG #: 280-11619-1/S101159-8987 Level V Page: 1 of 2

Laboratory: Test America/EBERLINE Services Reviewer: CR

2nd Reviewer: [illegible]

METHOD: Isotopic Uranium (Method 908.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/D, RP
IVa.	Laboratory control samples	A	LCS
V.	Tracer Recovery	A	
VI.	Minimum Detectable Activity (MDA)	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-13_011311_01D	11	RD-19_011311_01P	21		31	
2	RD-19_011311_01D	12	RD-98_011311_01P	22		32	
3	RD-98_011311_01D	13	RD-18_011311_01P	23		33	
4	RD-18_011311_01D	14	RD-14_011311_01P	24		34	
5	RD-14_011311_01D	15	RD-33B_011311_01P	25		35	
6	RD-33B_011311_01D	16	(MI2) MS	26		36	
7	RD-98_011311_01DMS	17	↓ MSD	27		37	
8	RD-98_011311_01DMSD	18		28		38	
9	RD-98_011311_01DDUP	19		29		39	
10	RD-13_011311_01P	20		30		40	

Notes: D=Dissolved; P=Particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 13, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Strontium-90

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11619-1/S101159-8987

Sample Identification

RD-13_011311_01D
RD-19_011311_01D
RD-98_011311_01D
RD-18_011311_01D
RD-14_011311_01D
RD-33B_011311_01D
RD-98_011311_01DMS
RD-98_011311_01DMSD
RD-98_011311_01DDUP
RD-13_011311_01P
RD-19_011311_01P
RD-98_011311_01P
RD-18_011311_01P
RD-14_011311_01P
RD-33B_011311_01P
RD-98_011311_01PMS
RD-98_011311_01PMSD

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 17 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Carrier Recovery

All carrier recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11619-1/S101159-8987	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Strontium-90 - Data Qualification Summary - SDG 280-11619-1/S101159-8987

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11619-1/S101159-8987	RD-13_011311_01D RD-19_011311_01D RD-98_011311_01D RD-18_011311_01D RD-14_011311_01D RD-33B_011311_01D RD-13_011311_01P RD-19_011311_01P RD-98_011311_01P RD-18_011311_01P RD-14_011311_01P RD-33B_011311_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-11619-1/S101159-8987

No Sample Data Qualified in this SDG

LDC #: 24989B61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11

SDG #: 280-11619-1/S101159-8987 Level V Page: 1 of 2

Laboratory: Test America/EBERLINE Services Reviewer: CP

2nd Reviewer: [illegible]

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/13/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/D, DUP
IVb.	Laboratory control samples	A	LCS
IVc.	Carrier recovery	A	
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-13_011311_01D	11	RD-19_011311_01P	21		31	
2	RD-19_011311_01D	12	RD-98_011311_01P	22		32	
3	RD-98_011311_01D	13	RD-18_011311_01P	23		33	
4	RD-18_011311_01D	14	RD-14_011311_01P	24		34	
5	RD-14_011311_01D	15	RD-33B_011311_01P	25		35	
6	RD-33B_011311_01D	16	(MS) MS	26		36	
7	RD-98_011311_01DMS	17	MSD	27		37	
8	RD-98_011311_01DMSD	18		28		38	
9	RD-98_011311_01DDUP	19		29		39	
10	RD-13_011311_01P	20		30		40	

Notes: D=Dissolved; P=Particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 14, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Gross Alpha & Beta
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11649-1/S101174-8988

Sample Identification

RD-85_011411_01D
RD-86_011411_01D
FB_011411_19D
FB_011411_19DDUP
RD-85_011411_01P
RD-86_011411_01P
FB_011411_19P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Samples FB_011411_19D and FB_011411_19P were identified as field blanks. No gross alpha or beta contaminants were found in these blanks.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analysis were not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11649-1/S101174-8988	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Data Qualification Summary - SDG 280-11649-1/S101174-8988

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11649-1/S101174-8988	RD-85_011411_01D RD-86_011411_01D FB_011411_19D FB_011411_19DUP RD-85_011411_01P RD-86_011411_01P FB_011411_19P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

LDC #: 24989C36 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11

SDG #: 280-11649-1/S101174-8988 Level V Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer:

METHOD: ~~Alpha Spectroscopy~~ (Method 900.0) Gross Alpha & Gross Beta

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	D,P
IVa.	Laboratory control samples	A	LCS
~~V.~~	~~Sample specific chemical recovery~~	N	~~Not required~~
VI.	~~Radionuclide Quantitation & Implied Detection Limits~~ MDA	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	FB=3,7

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-85_011411_01 D	11		21		31	
2	RD-86_011411_01 D	12		22		32	
3	FB_011411_19 D	13		23		33	
4	FB_011411_19DUP D	14		24		34	
5	(MW1) P	15		25		35	
6	(MW2) P	16		26		36	
7	(MW3) P	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 14, 2011
LDC Report Date:	March 1, 2011
Matrix:	Water
Parameters:	Tritium
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11649-1/S101174-8988

Sample Identification

RD-85_011411_01
RD-86_011411_01
FB_011411_19
FB_011411_19DUP

Introduction

This data review covers 4 water samples listed on the cover sheet. The analyses were per EPA Method 906.0 for Tritium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Sample FB_011411_19 was identified as a field blank. No tritium was found in this blank.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11649-1/S101174-8988	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Tritium - Data Qualification Summary - SDG 280-11649-1/S101174-8988

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11649-1/S101174-8988	RD-85_011411_01 RD-86_011411_01 FB_011411_19	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Tritium - Laboratory Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Tritium - Field Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

LDC #: 24989C34 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11

SDG #: 280-11649-1/S101174-8988 Level V Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer: [illegible]

METHOD: Tritium (EPA Method 906.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX	Field blanks	ND	FB = 3, *

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-85_011411_01	11		21		31	
2	RD-86_011411_01	12		22		32	
3	FB_011411_19	13		23		33	
4	FB_011411_19DUP	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 14, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Gamma Spectroscopy

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11649-1/S101174-8988

Sample Identification

RD-85_011411_01D
RD-86_011411_01D
FB_011411_19D
FB_011411_19DDUP
RD-85_011411_01P
RD-86_011411_01P
FB_011411_19P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 901.1 for Gamma Spectroscopy.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Samples FB_011411_19D and FB_011411_19P were identified as field blanks. No gamma emitting radionuclides were found in these blanks.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analysis were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11649-1/S101174-8988	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Data Qualification Summary - SDG 280-11649-1/S101174-8988

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11649-1/S101174-8988	RD-85_011411_01D RD-86_011411_01D FB_011411_19D RD-85_011411_01P RD-86_011411_01P FB_011411_19P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Laboratory Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Field Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

LDC #: 24989C35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11

SDG #: 280-11649-1/S101174-8988 Level V Page: 1 of 1

Laboratory : EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer: VC

METHOD: Gamma Spectroscopy (EPA Method 901.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX	Field blanks	ND	FB=3,7

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-85_011411_01 D	11		21		31	
2	RD-86_011411_01 D	12		22		32	
3	FB_011411_19 D	13		23		33	
4	FB_011411_19DUP KD	14		24		34	
5	(MS1) P	15		25		35	
6	(MS2) P	16		26		36	
7	(MS3) P	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 14, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Isotopic Uranium
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11649-1/S101174-8988

Sample Identification

RD-85_011411_01D
RD-86_011411_01D
FB_011411_19D
FB_011411_19DDUP
RD-85_011411_01P
RD-86_011411_01P
FB_011411_19P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 908.0 for Isotopic Uranium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Samples FB_011411_19D and FB_011411_19P were identified as equipment blanks. No isotopic uranium was found in these blanks.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analysis were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Tracer Recovery

All tracer recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11649-1/S101174-8988	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Data Qualification Summary - SDG 280-11649-1/S101174-8988

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11649-1/S101174-8988	RD-85_011411_01D RD-86_011411_01D FB_011411_19D RD-85_011411_01P RD-86_011411_01P FB_011411_19P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Field Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

LDC #: 24989C59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/4/11

SDG #: 280-11649-1/S101174-8988 Level V Page: 1 of 1

Laboratory: EBERLINE Services Reviewer: CR

TestAmerica 2nd Reviewer:

METHOD: Isotopic Uranium (Method 908.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVa.	Laboratory control samples	A	LCS
V.	Tracer Recovery	A	
VI.	Minimum Detectable Activity (MDA)	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	ND	FB=3, 7

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-85_011411_01 D	11		21		31	
2	RD-86_011411_01 D	12		22		32	
3	FB_011411_19 D	13		23		33	
4	FB_011411_19DUP	14		24		34	
5	(#1) P	15		25		35	
6	(#2) P	16		26		36	
7	(#3) P	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D= dissolved P= particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 14, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Strontium-90

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11649-1/S101174-8988

Sample Identification

RD-85_011411_01D
RD-86_011411_01D
FB_011411_19D
FB_011411_19DDUP
RD-85_011411_01P
RD-86_011411_01P
FB_011411_19P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

Samples FB_011411_19D and FB_011411_19P were identified as field blanks. No strontium-90 was found in these blanks.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Carrier Recovery

All carrier recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11649-1/S101174-8988	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Strontium-90 - Data Qualification Summary - SDG 280-11649-1/S101174-8988

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11649-1/S101174-8988	RD-85_011411_01D RD-86_011411_01D FB_011411_19D RD-85_011411_01P RD-86_011411_01P FB_011411_19P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-11649-1/S101174-8988

No Sample Data Qualified in this SDG

LDC #: 24989C61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11

SDG #: 280-11649-1/S101174-8988 Level V Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer:

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	D,P
IVb.	Laboratory control samples	A	LCS
IVc.	Carrier recovery	A	
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
XIV	Field blanks	ND	FB=3, 7

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-85_011411_01 D	11		21		31	
2	RD-86_011411_01 D	12		22		32	
3	FB_011411_19 D	13		23		33	
4	FB_011411_19DUP D	14		24		34	
5	(#1) P	15		25		35	
6	(#2) P	16		26		36	
7	(#3) P	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 19, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11753-2

Sample Identification

RD-37_011911_36

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11753-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-37_011911_36 and RD-37_011911_01 (from SDG 280-11753-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11753-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11753-2	RD-37_011911_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11753-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11753-2

No Sample Data Qualified in this SDG

LDC #: 24989D2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11
SDG #: 280-11753-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	280-11753-H-27
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 1 + RD-37_01 1911_01 (from 280-11753-1)
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	RD-37_011911_36	11	MB 280-50357/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 26, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11965-1/H1A280498

Sample Identification

PZ-129_012611_01
EB_PZ-129_012611

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Sample EB_PZ-129_012611 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11646-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD	0.70 pg/L	EB_PZ-129_012611
		1,2,3,4,7,8-HxCDD	0.42 pg/L	
		1,2,3,7,8,9-HxCDD	0.48 pg/L	
		1,2,3,4,6,7,8-HpCDD	1.3 pg/L	
		OCDD	2.2 pg/L	
		1,2,3,7,8-PeCDF	0.48 pg/L	
		2,3,4,7,8-PeCDF	0.40 pg/L	
		1,2,3,4,7,8-HxCDF	0.50 pg/L	
		2,3,4,6,7,8-HxCDF	0.52 pg/L	
		1,2,3,7,8,9-HxCDF	0.78 pg/L	
		1,2,3,4,6,7,8-HpCDF	0.78 pg/L	
		1,2,3,4,7,8,9-HpCDF	0.74 pg/L	
		OCDF	2.0 pg/L	

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11965-1/H1A280498	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-11965-1/H1A280498

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11965-1/ H1A280498	PZ-129_012611_01 EB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-11965-1/H1A280498

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-11965-1/H1A280498

No Sample Data Qualified in this SDG

LDC #: 24989E21 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11
SDG #: 280-11965-1/H1A280498 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: JV6
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	EB = 2 FB = FB_011411_19 (from 280-11965-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	PZ-129_012611_01	11	031124 MB	21		31	
2	EB_PZ-129_012611	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 24989 E21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: AVG
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** pg/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 1 (ND)

Compound	Blank ID	Sample Identification								
(from 280-11698-1)	FB.011411-19									
B	0.70									
C	0.42									
E	0.48									
F	1.3									
G	2.2									
I	0.48									
CRQL J	0.40									

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
K	0.50									
M	0.52									
N	0.78									
O	0.78									
P	0.74									
Q	2.0									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-1

Sample Identification

SH-07_012711_01
TB_SH-07_012711
HAR-07_012711_01
RD-02_012711_01
TB_RD-02_012711
EB_PZ-149_012711
PZ-149_012711_01
ES-17_012711_01
HAR-07_012711_01MS
HAR-07_012711_01MSD
TB_ES-17_012711

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-52122/6	2/7/11	Methylene chloride	0.334 ug/L	TB_RD-02_012711 EB_PZ-149_012711 PZ-149_012711_01 ES-17_012711_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_RD-02_012711	Methylene chloride	0.45 ug/L	1.0U
EB_PZ-149_012711	Methylene chloride	0.34 ug/L	1.0U
PZ-149_012711_01	Methylene chloride	0.33 ug/L	1.0U
ES-17_012711_01 (10x)	Methylene chloride	4.8 ug/L	50U

Samples TB_SH-07_012711, TB_RD-02_012711, and TB_ES-17_012711 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_SH-07_012711	1/27/11	Trichloroethene	0.32 ug/L	SH-07_012711_01 HAR-07_012711_01
TB_RD-02_012711	1/27/11	Methylene chloride	0.45 ug/L	RD-02_012711_01 EB_PZ-149_012711 PZ-149_012711_01
TB_ES-17_012711	1/27/11	Methylene chloride	0.51 ug/L	ES-17_012711_01

Sample EB_PZ-149_012711 was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-149_012711	1/27/11	Chloroform Methylene chloride	2.0 ug/L 0.34 ug/L	PZ-149_012711_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform Styrene	2.5 ug/L 0.40 ug/L	PZ-149_012711_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
EB_PZ-149_012711	Methylene chloride	0.34 ug/L	1.0U ug/L
PZ-149_012711_01	Methylene chloride	0.33 ug/L	1.0U ug/L
ES-17_012711_01	Methylene chloride	4.8 ug/L	50U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-51260/5,7 (TB_RD-02_012711 EB_PZ-149_012711 PZ-149_012711_01 MB 280-51260/6)	2-Chloroethylvinyl ether		-	35 (≤31)	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12016-1	TB_RD-02_012711 EB_PZ-149_012711 PZ-149_012711_01	2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R) (E)
280-12016-1	SH-07_012711_01 TB_SH-07_012711 HAR-07_012711_01 RD-02_012711_01 TB_RD-02_012711 EB_PZ-149_012711 PZ-149_012711_01 ES-17_012711_01 TB_ES-17_012711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12016-1	TB_RD-02_012711	Methylene chloride	1.0U	A	B
280-12016-1	EB_PZ-149_012711	Methylene chloride	1.0U	A	B
280-12016-1	PZ-149_012711_01	Methylene chloride	1.0U	A	B
280-12016-1	ES-17_012711_01 (10x)	Methylene chloride	50U	A	B

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12016-1	EB_PZ-149_012711	Methylene chloride	1.0U ug/L	A	T
280-12016-1	PZ-149_012711_01	Methylene chloride	1.0U ug/L	A	F, T
280-12016-1	ES-17_012711_01	Methylene chloride	50U ug/L	A	T

LDC #: 24989F1a

SDG #: 280-12016-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/02/11

Page: 1 of 1

Reviewer: NG

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	SW	LCS 1/b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2,5 11 EB = 6 FB = FB 011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1	SH-07_012711_01	11	MB 280-52058/4	21		31	
2	TB_SH-07_012711	12	MB 280-52127	22		32	
3	HAR-07_012711_01	13	MB 280-51260/6	23		33	
4	RD-02_012711_01	14		24		34	
5	TB_RD-02_012711	15		25		35	
6	EB_PZ-149_012711	16		26		36	
7	PZ-149_012711_01	17		27		37	
8	ES-17_012711_01	18		28		38	
9	HAR-07_012711_01MS	19		29		39	
10	HAR-07_012711_01MSD	20		30		40	
11	TB_ES-17_012711						

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24989 FIC

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: VC
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 2/07/14
Conc. units: ug/L Associated Samples: 5 - 8 Code: B

Compound	Blank ID	Sample Identification								
MB	280-52122/6	5	6	7	8 (10x)					
Methylene chloride E	0.33J	0.45/1.0U	0.34/1.0U	0.33/1.0U	4.8/50U					
Acetone										
CRQL										

Blank analysis date:
Conc. units: Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24989 F1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: VG
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y / N /N/A Were field blanks identified in this SDG?
Y / N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 1 3

Compound	Blank ID 2	Blank ID	Sample Identification							
Sampling Date	1/27/11		1	3						
~~Methylene chloride~~ S	0.32		4.2	3100						
Acetone										
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 4 6 7 Code: T

Compound	Blank ID 5	Blank ID	Sample Identification							
Sampling Date	1/27/11		6	7						
Methylene chloride E	0.45		0.34 / 1.04	0.33 / 1.04						
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24989 F1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 2
Reviewer: JVC
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/l **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 8 code: T

Compound	Blank ID 11	Blank ID	Sample Identification							
Sampling Date	1/27/11		8							
Methylene chloride E	0.51		4.8 /504							
Acetone										
Chloroform										
CRQL										

Blank units: ug/L **Associated ~~sample~~ units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 7 code: F

Compound	EB Blank ID 6	FB_011411 Blank ID 19	Sample Identification							
Sampling Date	1/27/11	1/14/11		7						
~~Methylene chloride~~ K	2.0	2.5								
~~Acetone~~ E	0.34			0.33 /1.04						
~~Chloroform~~ FF		0.40								
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24989 F1A

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: VG
2nd Reviewer: [illegible]

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	9/10	S	( )	75 (78-122)	( )	3	No qual (parent conc >4X Spike amt)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

LDC #: 21989F19

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JV6
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?
Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	LCS/D 280-51260/5,7	II	( )	( )	35 (31)	5-7, MB 280-51260/6	J/UJ/P (E)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

(II - not reported for # 8)

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-1

Sample Identification

SH-07_012711_01
TB_SH-07_012711
HAR-07_012711_01
RD-02_012711_01
TB_RD-02_012711
PZ-149_012711_01
ES-17_012711_01
TB_ES-17_012711
HAR-07_012711_01MS
HAR-07_012711_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_SH-07_012711, TB_RD-02_012711, TB_ES-17_012711 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12016-1	SH-07_012711_01 TB_SH-07_012711 HAR-07_012711_01 RD-02_012711_01 TB_RD-02_012711 PZ-149_012711_01 ES-17_012711_01 TB_ES-17_012711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

LDC #: 24989F1b

SDG #: 280-12016-1

Laboratory: Test America Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/6/11

Page: 1 of 1

Reviewer: VG

2nd Reviewer: [illegible]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 5, 8 FB = FB-011411-19

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

(from 280-11638-1)

Validated Samples: Water

1 +	SH-07_012711_01	11	MB 280-52297/11	21		31	
2 −	TB_SH-07_012711	12		22		32	
3 −	HAR-07_012711_01	13		23		33	
4 +	RD-02_012711_01	14		24		34	
5 −	TB_RD-02_012711	15		25		35	
6 +	PZ-149_012711_01	16		26		36	
7 −	ES-17_012711_01	17		27		37	
8 −	TB_ES-17_012711	18		28		38	
9	HAR-07_012711_01MS	19		29		39	
10	HAR-07_012711_01MSD	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 27, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12016-1

Sample Identification

SH-07_012711_01
HAR-07_012711_01
EB_PZ-149_012711
ES-17_012711_01
HAR-07_012711_01MS
HAR-07_012711_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_PZ-149_012711 was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12016-1	SH-07_012711_01 HAR-07_012711_01 EB_PZ-149_012711 ES-17_012711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

LDC #: 24989F2a

SDG #: 280-12016-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/02/11

Page: 1 of 1

Reviewer: MG

2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 3 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	SH-07_012711_01	11	MB 280-51042/A	21		31	
2	HAR-07_012711_01	12		22		32	
3	EB_PZ-149_012711	13		23		33	
4	ES-17_012711_01	14		24		34	
5	HAR-07_012711_01MS	15		25		35	
6	HAR-07_012711_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

A + MB = 1

MB = 2, 4

FULL = 3

(PZ-149_012711 -> not requested for 8270, only for 8270 SIM)

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-1

Sample Identification

SH-07_012711_01
HAR-07_012711_01
EB_PZ-149_012711
PZ-149_012711_01
ES-17_012711_01
HAR-07_012711_01MS
HAR-07_012711_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples EB_PZ-149_012711 and EB_SH-07_012711 (from SDG 280-12016-2) were identified as equipment blanks. No N-Nitrosodimethylamine was found in these blanks.

Samples FB_SH-07_012711_19 (from SDG 280-12016-2), FB_HAR-07_012711_19 (from SDG 280-12016-2), FB_ES-17_012711_19 (from SDG 280-12016-2), and FB_011411_19 (from SDG 280-11638-1) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-07_012711_01 and SH-07_012711_36 (from SDG 280-12016-2), and HAR-07_012711_01 and HAR-07_012711_36 (from SDG 280-12016-2), and samples ES-17_012711_01 and ES-17_012711_36 (from SDG 280-12016-2), were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-07_012711_01	SH-07_012711_36			
N-Nitrosodimethylamine	0.052	0.012	125 (≤35)	NQ	A

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR07_012711_01	HAR07_012711_36			
N-Nitrosodimethylamine	0.025	0.024	4 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	ES-17_012711_01	ES-17_012711_36			
N-Nitrosodimethylamine	0.0057	0.0050U	13 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12016-1	SH-07_012711_01 HAR-07_012711_01 EB_PZ-149_012711 PZ-149_012711_01 ES-17_012711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

LDC #: 24989F2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11
SDG #: 280-12016-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer: [illegible]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
II.	GC/MS Instrument performance check.	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = see below
XVII.	Field blanks	ND	EB = 3; EB-SH-07_012711 from 280-12016-2 FB = See below

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

+ 1	SH-07_012711_01 D_1	11	MB 280-51253/1-A	21	D_1 = 1 + SH-07_012711_36		(from 280-12016-2)
+ 2	HAR-07_012711_01 D ✓	12		22	D_2 = 2 + HAR-07_012711_36		
− 3	EB_PZ-149_012711	13		23	D_3 = 5 + ES-17_012711_36		
− 4	PZ-149_012711_01	14		24 −	FB = FB_SH-07_012711_19		
+ 5	ES-17_012711_01 D_3	15		25 −	= FB_HAR-07_012711_19		
6	HAR-07_012711_01MS	16		26 −	= FB_ES-17_012711_19		
7	HAR-07_012711_01MSD	17		27 −	= FB_011411_1 37		(from 280-12635-1)
8		18		28		38	
9		19		29		39	
10		20		30		40	

(Samples extracted for 8 hrs rather than 18 hrs)

LDC#:24989F2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	SH-07_012711_01	SH-07_012711_36		
NDMA	0.052	0.012	125	Idet/A (*?)

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-07_012711_01	HAR-07_012711_36		
NDMA	0.025	0.024	4	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	ES-17_012711_01	ES-17_012711_36		
NDMA	0.0057	0.0050U	13	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 27, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	Polynuclear Aromatic Hydrocarbons
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12016-1

Sample Identification

EB_PZ-149_012711
PZ-149_012711_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-51591/1-A	2/2/11	Benzo(b)fluoranthene	0.0373 ug/L	All samples in SDG 280-12016-1
		Benzo(a)pyrene	0.155 ug/L	
		Benzo(a)anthracene	0.0357 ug/L	
		Benzo(k)fluoranthene	0.0304 ug/L	
		Benzo(g,h,i)perylene	0.0305 ug/L	
		Phenanthrene	0.0353 ug/L	
		Anthracene	0.0221 ug/L	
		Dibenzo(a,h)anthracene	0.156 ug/L	
		Chrysene	0.0380 ug/L	
		Fluoranthene	0.0378 ug/L	
		Fluorene	0.0190 ug/L	
		Pyrene	0.0345 ug/L	
		Indeno(1,2,3-cd)pyrene	0.144 ug/L	
		Naphthalene	0.00645 ug/L	
		Bis(2-ethylhexyl)phthalate	0.584 ug/L	
		Butylbenzylphthalate	0.568 ug/L	
		Di-n-butylphthalate	0.172 ug/L	
		Diethylphthalate	0.187 ug/L	
		Di-n-octylphthalate	0.768 ug/L	

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
EB_PZ-149_012711	Naphthalene	0.014 ug/L	10U ug/L
	Bis(2-ethylhexyl)phthalate	0.63 ug/L	10U ug/L
	Butylbenzylphthalate	0.56 ug/L	10U ug/L
	Di-n-butylphthalate	0.15 ug/L	10U ug/L
	Diethylphthalate	0.20 ug/L	10U ug/L
	Di-n-octylphthalate	0.88 ug/L	10U ug/L
PZ-149_012711_01	Naphthalene	0.023 ug/L	10U ug/L
	Bis(2-ethylhexyl)phthalate	0.84 ug/L	10U ug/L
	Butylbenzylphthalate	0.57 ug/L	10U ug/L
	Di-n-octylphthalate	0.87 ug/L	10U ug/L

Sample EB_PZ-149_012711 was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-149_012711	1/27/11	2-Methylnaphthalene	0.0073 ug/L	PZ-149_012711_01
		Naphthalene	0.014 ug/L	
		Bis(2-ethylhexyl)phthalate	0.63 ug/L	
		Butylbenzylphthalate	0.56 ug/L	
		Di-n-butylphthalate	0.15 ug/L	
		Diethylphthalate	0.20 ug/L	
		Di-n-octylphthalate	0.88 ug/L	

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Naphthalene	0.0073 ug/L	PZ-149_012711_01
		Bis(2-ethylhexyl)phthalate	0.14 ug/L	
		Butylbenzylphthalate	0.060 ug/L	
		Di-n-butylphthalate	0.094 ug/L	
		Di-n-octylphthalate	0.51 ug/L	
		Benzo(a)anthracene	0.0054 ug/L	
		Chrysene	0.0037 ug/L	

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-149_012711_01	2-Methylnaphthalene	0.012 ug/L	10U ug/L
	Naphthalene	0.023 ug/L	10U ug/L
	Bis(2-ethylhexyl)phthalate	0.84 ug/L	10U ug/L
	Butylbenzylphthalate	0.57 ug/L	10U ug/L
	Di-n-octylphthalate	0.87 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-51591/2,3-A (All samples in SDG 280-12016-1)	Butylbenzylphthalate	145 (38-120)	145 (38-120)	-	J (all detects)	P
	Di-n-octylphthalate	141 (39-128)	140 (39-128)	-	J (all detects)	

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12016-1	EB_PZ-149_012711 PZ-149_012711_01	Butylbenzylphthalate Di-n-octylphthalate	J (all detects) J (all detects)	P	Laboratory control samples (%R) (L)
280-12016-1	EB_PZ-149_012711 PZ-149_012711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12016-1	EB_PZ-149_012711	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B
280-12016-1	PZ-149_012711_01	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12016-1	PZ-149_012711_01	2-Methylnaphthalene Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	F

LDC #: 24989F2c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11
SDG #: 280-12016-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	SW	LCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 1 FB = FB_011411-19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-149_012711	11	MB 280-51591/1-A	21		31	
2	PZ-149_012711_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 24989 F2c

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: VE
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 2/02/11 **Blank analysis date:** 2/04/11
Conc. units: ug/L Associated Samples: All code: B

Compound	Blank ID	Sample Identification							
MB	280-57541/1-A		1	2					
GGG	0.0373								
III	0.155								
CCC	0.0357								
HHH	0.0304								
LLL	0.0305								
UU	0.0353								
VV	0.0221								
KKK	0.156								
DDD	0.0380								
YY	0.0378								
NN	0.0190								
ZZ	0.0345								
JJJ	0.144								
0.0327 S	0.00645		0.014/10U	0.023/10U					
EEE	0.584		0.63/	0.84/					
AAA	0.568		0.56/	0.57/					
1.7Y XX	0.172		0.15/	(3.5)					
LL	0.187		0.20/	(7.8)					
FFF	0.768		0.88/	0.87/10U					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24989F2C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: AG
2nd Reviewer: [signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: EB = 1/27/11 ; FB = 1/14/11

Field blank type: (circle one) (Field Blank) / Rinsate / Other: EB Associated Samples: 2 Code: F

Compound	Blank ID	Blank ID	Sample Identification						
	1	FB_011411-19		2					
5/10x									
0365 W	0.0073			0.012/10U					
.07 S	0.014	0.0073		0.023/					
.3 EEE	0.63	0.14		0.84/					
.6 AAA	0.56	0.060		0.57/					
.5 XX	0.15	0.094		(3.5)					
2.0 LL	0.20			(7.8)					
5.8 FFF	0.88	0.51		0.87/10U					
CCC		0.0054							
DDD		0.0037							
CRQL									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 21989F2c

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JG
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was a LCS required?

Y (N) N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS ID 280-57591/23-A	AAA	145 (38-120)	145 (38-120)	( )	All	J dets /p (L)
			FFF	141 (39-128)	140 (39-128)	( )	↓	↓
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-1

Sample Identification

EB_PZ-149_012711

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_PZ-149_012711 was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

Raw data were not reviewed for this SDG.

XIII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12016-1	EB_PZ-149_012711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XIII)

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

LDC #: 24989F3b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/12/11
SDG #: 280-12016-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JV6
2nd Reviewer: CL

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-149_012711	11	MB 280-51250/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-1

Sample Identification

SH-07_012711_01
ES-17_012711_01
SH-07_012711_01F
EB_PZ-149_012711F
ES-17_012711_01F
SH-07_012711_01FMS
SH-07_012711_01FMSD
EB_PZ-149_012711FMS
EB_PZ-149_012711FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese	0.000760 mg/L	SH-07_012711_01F ES-17_012711_01F
PB (prep blank)	Thallium	0.0000270 mg/L	EB_PZ-149_012711F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-07_012711_01F	Manganese	0.00064 mg/L	0.00064U mg/L

Sample EB_PZ-149_012711F was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-149_012711F	1/27/11	Calcium Sodium	0.055 mg/L 0.13 mg/L	No associated samples in this SDG

Samples FB_011411_19 and FB_011411_19F (both from SDG 280-11638-1) were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Calcium Manganese Sodium	0.048 mg/L 0.00030 mg/L 0.097 mg/L	SH-07_012711_01
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	SH-07_012711_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-07_012711_01	Manganese	0.0020 mg/L	0.0020U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12016-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12016-1	SH-07_012711_01 ES-17_012711_01 SH-07_012711_01F EB_PZ-149_012711F ES-17_012711_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12016-1	SH-07_012711_01F	Manganese	0.00064U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12016-1	SH-07_012711_01	Manganese	0.0020U mg/L	A	F

LDC #: 24989F4 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/11
SDG #: 280-12016-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method 6010B/6020/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=5, FB_011411_19 (280-11638-1) di F

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	SH-07_012711_01	11	(#4) MS	21		31	
~~2~~	~~EB_PZ-149_012711~~	12	↓ MSD	22		32	
3	ES-17_012711_01	13	(#5) MS	23		33	
4	SH-07_012711_01F	14	↓ MSD	24		34	
5	EB_PZ-149_012711F	15		25		35	
6	ES-17_012711_01F	16		26		36	
~~7~~	~~HAR-07_012711_01MS~~	17		27		37	
8	HAR-07_012711_01MSD	18		28		38	
9	HAR-07_012711_01FMS	19		29		39	
~~10~~	~~HAR-07_012711_01FMSD~~	20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

DC #: 124489F4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1,3,4,6		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SC)
5		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
7,8		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
9,10		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
11,12		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (SC)
13,14		Al, Sb, (As, Ba, Be, Cd,) Ca, (Cr, Co, Cu,) Fe, (Pb,) Mg, (Mn,) Hg, (Ni,) K, (Se, Ag,) Na, (Tl, V, Zn, Mo,) B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

Analysis Method		
CP		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, (B), Si, CN; (SC)
CP-MS		Al, Sb, (As, Ba, Be, Cd,) Ca, (Cr, Co, Cu,) Fe, (Pb,) Mg, (Mn,) Hg, (Ni,) K, (Se, Ag,) Na, (Tl, V, Zn, Mo,) B, Si, CN;
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

Comments: Mercury by CVAA if performed

LDC #: 24989F4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 4, 6

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	4									
Mn		0.000760		0.0038	0.00064									

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 5

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
Tl		0.0000270		0.0001										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24989F4

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Sampling date: 1/27/11 Soil factor applied NA Units: mg/L

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: None

Analyte	Blank ID	Sample Identification										
	5	Action Level										
Ca	0.055	0.275										
Na	0.13	0.65										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24989F4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: 2
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 1

Analyte	Blank ID	Sample Identification										
	FB_011411_19 (SDG: 280-11638-1)	Action Level	1									
Ca	0.048	0.24										
Mn	0.00030	0.002	0.0020									
Na	0.097	0.485										

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 4

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-1

Sample Identification

SH-07_012711_01
SH-07_012711_01A
HAR-07_012711_01
EB_PZ-149_012711
ES-17_012711_01
SH-07_012711_01ADUP
HAR-07_012711_01MS
HAR-07_012711_01MSD
ES-17_012711_01DUP
HAR-07_012711_01DUP

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphate, and Sulfate, EPA Method 314.0 for Perchlorate, EPA Method 9040B for pH, Standard Method 2540C for Total Dissolved Solids, Standard Method 2320B for Alkalinity, EPA Method 180.1 for Turbidity, and Standard Method 2510B for Specific Conductance.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB	Perchlorate	0.630 ug/L	ES-17_012711_01
PB	Ammonia as N	0.0731 mg/L	SH-07_012711_01 HAR-07_012711_01 ES-17_012711_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-07_012711_01	Ammonia as N	0.12 mg/L	0.12U mg/L
HAR-07_012711_01	Ammonia as N	0.12 mg/L	0.12U mg/L
ES-17_012711_01	Ammonia as N	0.092 mg/L	0.092U mg/L

Sample EB_PZ-149_012711 was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-149_012711	1/27/11	Orthophosphate as P	0.59 mg/L	No associated samples in this SDG

Sample FB_011411_19 (from SDG 280-11638-1) was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/24/11	Sulfate	0.37 mg/L	SH-07_012711_01
FB_011411_19	1/14/11	Ammonia as N	0.091 mg/L	SH-07_012711_01A

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-07_012711_01	Ammonia as N	0.12 mg/L	0.12U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12016-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12016-1	SH-07_012711_01 SH-07_012711_01A HAR-07_012711_01 EB_PZ-149_012711 ES-17_012711_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12016-1	SH-07_012711_01	Ammonia as N	0.12U mg/L	A	B
280-12016-1	HAR-07_012711_01	Ammonia as N	0.12U mg/L	A	B
280-12016-1	ES-17_012711_01	Ammonia as N	0.092U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12016-1	SH-07_012711_01	Ammonia as N	0.12U mg/L	A	F

LDC #: 24989F6

SDG #: 280-12016-1

Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/3/11

Page: 1 of 1

Reviewer: CR

2nd Reviewer: W

METHOD: (Analyte) Ammonia-N (EPA Method 350.2), Bromide, Chloride, Fluoride, Nitrate-N, Nitrite-N, Orthophosphate, PO_4 Sulfate (EPA Method 300.0), ~~Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A)~~, Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), TDS (SM2540C), Alkalinity (SM2320B), Turbidity (180.1), specific Conductance (SM2510B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	SW	EB=4, FB_011411_19 (=80-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	SH-07_012711_01	11		21		31	
2	SH-07_012711_01A	12		22		32	
3	HAR-07_012711_01	13		23		33	
4	EB_PZ-149_012711	14		24		34	
5	ES-17_012711_01	15		25		35	
6	SH-07_012711_01ADUP	16		26		36	
7	HAR-07_012711_01MS	17		27		37	
8	HAR-07_012711_01MSD	18		28		38	
9	ES-17_012711_01DUP	19		29		39	
10	(#3) DUP	20		30		40	

Notes:

LDC #: 24989F6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: AR
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} ClO_4
2		(**pH**) (**TDS**) (**Cl**) F NO_3 NO_2 (**SO_4**) PO_4 (**ALK**) CN^- NH_3 TKN TOC CR^{6+} (**ClO_4**) (**Turb**) (**Cond**)
3		(**pH**) TDS Cl (**F**) NO_3 NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**)
4		pH TDS (**Cl**) F NO_3 NO_2 SO_4 (**PO_4**) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (**BG**)
5		(**pH**) (**TDS**) (**Cl**) F NO_3 NO_2 (**SO_4**) PO_4 (**ALK**) CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**) (**Turb**) (**Cond**)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC: 6		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (**Turb**) (**Cond**)
7		pH TDS Cl (**F**) (**NO_3**) NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**)
8		pH TDS Cl (**F**) (**NO_3**) NO_2 SO_4 PO_4 ALK CN^- (**NH_3**) TKN TOC CR^{6+} (**ClO_4**)
9		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (**Cond**)
10		pH TDS (**Cl**) F (**NO_3**) (**NO_2**) (**SO_4**) (**PO_4**) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (**BG**)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 24989F6

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: ug/L **Associated Samples: 5** **Reason Code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit									
	PB	ICB/CCB (mg/L)		No Qualifiers								
ClO4	0.630		3.15									

Conc. units: mg/L **Associated Samples: 1, 3, 5** **Reason Code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit									
	PB	ICB/CCB (mg/L)		1	3	5						
NH3-N	0.0731		0.3655	0.12	0.12	0.092						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24989F6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Inorganics, EPA Method See Cover

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason: F

Sampling date: 1/27/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: None

Analyte	Blank ID	Action Limit	Sample Identification							
[illegible]	4		No Qualifiers							
Orthophosphate as Phosphate	0.59	2.95								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24989F6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Inorganics, EPA Method See Cover

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: NH3-N=1 SO4=2

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		1							
Sulfate	0.37	1.85								
Ammonia as N	0.091	0.455	0.12							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Diesel

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-1

Sample Identification

HAR-07_012711_01
EB_PZ-149_012711
HAR-07_012711_01MS
HAR-07_012711_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Total Petroleum Hydrocarbons (TPH) as Diesel.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as diesel contaminants were found in the method blanks.

Sample EB_PZ-149_012711 was identified as an equipment blank. No total petroleum hydrocarbons as diesel contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within the QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-07_012711_01MS/MSD (HAR-07_012711_01)	C8-C11	0 (10-115)	0 (10-115)	-	J (all detects) R (all non-detects)	A

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12016-1	HAR-07_012711_01	C8-C11	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-12016-1	HAR-07_012711_01 EB_PZ-149_012711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Total Petroleum Hydrocarbons as Diesel - Field Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

LDC #: 24989F8
SDG #: 280-12016-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/02/11
Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	SW	
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	EB = 2 ~~FB = FB-011411-19~~ (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-07_012711_01	11	MB 280-51593/1-A	21		31	
2	EB_PZ-149_012711	12		22		32	
3	HAR-07_012711_01MS	13		23		33	
4	HAR-07_012711_01MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: >4989 F8

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

(Y) N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	3/4	C8 - C11	0 (10-115)	0 (10-115)	( )	1	J/R/A (GT)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-1/A1A280415

Sample Identification

SH-07_012711_01
HAR-07_012711_01
ES-17_012711_01
HAR-07_012711_01MS
HAR-07_012711_01MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No formaldehyde was found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Formaldehyde	21 ug/L	SH-07_012711_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-1/A1A280415	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-12016-1/A1A280415

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12016-1/ A1A280415	SH-07_012711_01 HAR-07_012711_01 ES-17_012711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-12016-1/A1A280415

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-12016-1/A1A280415

No Sample Data Qualified in this SDG

LDC #: 24929F71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11

SDG #: 280-12016-1/A1A280415 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: JV6

2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not req'd.
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW	FB = FB_011411_09 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-07_012711_01	11	lo 28154-MB	21		31	
2	HAR-07_012711_01	12		22		32	
3	ES-17_012711_01	13		23		33	
4	HAR-07_012711_01 MS	14		24		34	
5	HAR-07_012711-01 MSD	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24989 F71

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JM
2nd Reviewer:

METHOD: __ GC / HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 1 (ND)

Compound	Blank ID	Blank ID	Sample Identification							
	FB_011411_19									
Formaldehyde	21									
CRQL										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-1

Sample Identification

HAR-07_012711_01
ES-17_012711_01
HAR-07_012711_01MS
HAR-07_012711_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-12016-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12016-1	HAR-07_012711_01 ES-17_012711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-12016-1

No Sample Data Qualified in this SDG

LDC #: 24989F76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/11
SDG #: 280-12016-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: [illegible]

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
~~IVa.~~	~~Surrogate recovery~~	N	Not required.
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	HAR-07_012711_01	11	PBW	21		31	
2	ES-17_012711_01	12		22		32	
3	HAR-07_012711_01MS	13		23		33	
4	HAR-07_012711_01MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 24989F76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: AR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
2		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
QC34		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 27, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12016-2

Sample Identification

SH-07_012711_36
FB_SH-07_012711_19
HAR-07_012711_36
FB_HAR-07_012711_19
ES-17_012711_36
FB_ES-17_012711_19
EB_SH-07_012711

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_SH-07_012711 was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Samples FB_SH-07_012711_19, FB_HAR-07_012711_19, FB_ES-17_012711_19, and FB_011411_19 (from SDG 280-11638-1) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12016-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-07_012711_36 and SH-07_012711_01 (from SDG 280-12016-1), and HAR-07_012711_36 and HAR-07_012711_01 (from SDG 280-12016-1), and samples ES-17_012711_36 and ES-17_012711_01 (from SDG 280-12016-1), were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-07_012711_01	SH-07_012711_36			
N-Nitrosodimethylamine	0.052	0.012	125 (≤35)	NQ	A

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	HAR07_012711_01	HAR07_012711_36			
N-Nitrosodimethylamine	0.025	0.024	4 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	ES-17_012711_01	ES-17_012711_36			
N-Nitrosodimethylamine	0.0057	0.0050U	13 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12016-2

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12016-2	SH-07_012711_36 FB_SH-07_012711_19 HAR-07_012711_36 FB_HAR-07_012711_19 ES-17_012711_36 FB_ES-17_012711_19 EB_SH-07_012711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12016-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12016-2

No Sample Data Qualified in this SDG

LDC #: 24989G2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/62/11
SDG #: 280-12016-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VV
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_1 = 1 + SH-07_012711_01; D_2 = 3 + HAR-07_012711-01; D_3 = 5 + ES-17_012711-01 > from 280-12016-1
XVII.	Field blanks	ND	FB = 2 4 6 EB = 7 ~~+ EB_PZ-149~~ ↓ = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

+ 1	SH-07_012711_36 D_1	11	MB 280-51640/1-A	21		31	
- 2	FB_SH-07_012711_19	12		22		32	
+ 3	HAR-07_012711_36 D_2	13		23		33	
- 4	FB_HAR-07_012711_19	14		24		34	
+ 5	ES-17_012711_36 D_3	15		25		35	
- 6	FB_ES-17_012711_19	16		26		36	
- 7	EB_SH-07_012711	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(Samples extracted for 8 hours rather than 18 hours)

LDC#:24989G2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: VG
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	SH-07_012711_01	SH-07_012711_36		
NDMA	0.052	0.012	125	Jdet/A (*?)

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-07_012711_01	HAR-07_012711_36		
NDMA	0.025	0.024	4	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	ES-17_012711_01	ES-17_012711_36		
NDMA	0.0057	0.0050U	13	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 27, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12020-1/H1A300403

Sample Identification

EB_PZ-149_012711

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Sample EB_PZ-149_012711 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12020-1/H1A300403	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-12020-1/H1A300403

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12020-1/ H1A300403	EB_PZ-149_012711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-12020-1/H1A300403

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-12020-1/H1A300403

No Sample Data Qualified in this SDG

LDC #: 24989H21 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/62/11

SDG #: 280-12020-1/H1A300403 Level V Page: 1 of 1

Laboratory: Test America Inc. Reviewer: JW

2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/27/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	EB_PZ-149_012711	11	031124-MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 28, 2011

LDC Report Date: March 15, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12062-1

Sample Identification

PZ-060_012811_01
RD-49A_012811_01
TB_RD-49_012811
RS-34_012811_01
TB_RS-34_012811
HAR-30_012811_01
EB_PZ-154_012811
PZ-154_012811_01
TB_PZ-154_012811

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-52122/6	2/7/11	Methylene chloride	0.334 ug/L	RS-34_012811_01 TB_RS-34_012811 HAR-30_012811_01 EB_PZ-154_012811 PZ-154_012811_01 TB_PZ-154_012811

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RS-34_012811_01	Methylene chloride	0.33 ug/L	5.0U ug/L
TB_RS-34_012811	Methylene chloride	0.48 ug/L	5.0U ug/L
EB_PZ-154_012811	Methylene chloride	0.35 ug/L	1.0U ug/L
PZ-154_012811_01 (20X)	Methylene chloride	14 ug/L	20U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_PZ-154_012811	Methylene chloride	0.36 ug/L	1.0U ug/L

Samples TB_RD-49_012811, TB_RS-34_012811, and TB_PZ-154_012811 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-49_012811	1/28/11	Methylene chloride	0.35 ug/L	RD-49A_012811_01
TB_RS-34_012811	1/28/11	Methylene chloride	0.48 ug/L	RS-34_012811_01
TB_PZ-154_012811	1/28/11	Methylene chloride	0.36 ug/L	EB_PZ-154_012811 PZ-154_012811_01

Samples EB_PZ-154_012811 and EB_RD-67_011311 (from SDG 280-11605-1) were identified as equipment blanks. No volatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-154_012811	1/28/11	Chloroform Methylene chloride	2.5 ug/L 0.35 ug/L	PZ-154_012811_01
EB_RD-67_011311	1/31/11	Chloroform	5.8 ug/L	PZ-060_012811_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform	2.5 ug/L	PZ-060_012811_01 PZ-154_012811_01
FB_011411_19	1/14/11	Styrene	0.40 ug/L	PZ-154_012811_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RS-34_012811_01	Methylene chloride	0.33 ug/L	5.0U ug/L
EB_PZ-154_012811	Methylene chloride	0.35 ug/L	1.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Volatiles - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-1	PZ-060_012811_01 RD-49A_012811_01 TB_RD-49_012811 RS-34_012811_01 TB_RS-34_012811 HAR-30_012811_01 EB_PZ-154_012811 PZ-154_012811_01 TB_PZ-154_012811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12062-1	RS-34_012811_01	Methylene chloride	5.0U ug/L	A	B
280-12062-1	TB_RS-34_012811	Methylene chloride	5.0U ug/L	A	B
280-12062-1	EB_PZ-154_012811	Methylene chloride	1.0U ug/L	A	B
280-12062-1	PZ-154_012811_01 (20X)	Methylene chloride	20U ug/L	A	B
280-12062-1	TB_PZ-154_012811	Methylene chloride	1.0U ug/L	A	B

Boeing SSFL GW 1st Qtr
Volatiles - Field Blank Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12062-1	RS-34_012811_01	Methylene chloride	5.0U ug/L	A	T
280-12062-1	EB_PZ-154_012811	Methylene chloride	1.0U ug/L	A	T

LDC #: 24989I1a
SDG #: 280-12062-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/02/11
Page: 1 of 1
Reviewer: JW
2nd Reviewer: A

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 3 5 9 EB = 7 FB = FB_011411_19 EBRD-67_011311 (280-11605-1) (from 280-11698-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

+ 1	PZ-060_012811_01	− 11	MB 280-52058/4	21		31	
+ 2	RD-49A_012811_01	+ 12	MB 280-52127	22		32	
+ 3	TB_RD-49_012811	− 13	MB 280-51299/6	23		33	
+ 4	RS-34_012811_01	14		24		34	
+ 5	TB_RS-34_012811	15		25		35	
+ 6	HAR-30_012811_01	16		26		36	
7	EB_PZ-154_012811	17		27		37	
8	PZ-154_012811_01	18		28		38	
9	TB_PZ-154_012811	19		29		39	
10		20		30		40	

10X
5, 20X, 10X

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24989 J1a

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 2/07/11
Conc. units: ug/L Associated Samples: 4 – 9 Code: B

Compound	Blank ID	Sample Identification								
MB	280-52122/6	4	5	7	8 (20x)	8 (20x)	9		
Methylene chloride E	0.334	0.33/5.0U	0.48/5.0U	0.35/1.0U	(14)	14/20U	0.36/1.0U		
Acetone									
CROI									

Blank analysis date:
Conc. units: Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
CROI										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24989 I 1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y / N /N/A Were field blanks identified in this SDG?
Y / N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 2 (ND)

Compound	Blank ID 3	Blank ID	Sample Identification								
Sampling Date	1/28/11										
Methylene chloride E	0.35										
Acetone											
Chloroform											
CRQL											

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 4, 5 code: T

Compound	Blank ID 5	Blank ID	Sample Identification								
Sampling Date	1/28/11		4								
Methylene chloride E	0.48		0.33/5.04								
Acetone											
Chloroform											
CRQL											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

(# 6 → E = ND)

LDC #: 24989T1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug /L **Associated sample units:** ug /L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 7, 8, 14 Code: T

Compound	Blank ID 9	Blank ID	Sample Identification							
Sampling Date	1/28/11		7	8						
Methylene chloride E	0.36		0.35/1.0U	(14)						
Acetone										
Chloroform										
CRQL										

Blank units: ug /L **Associated sample units:** ug /L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 8

Compound	Blank ID 7	Blank ID	Sample Identification							
Sampling Date	1/28/11		8							
~~Methylene chloride~~ K	2.5									
~~Acetone~~ E	0.35		(14)							
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

(# 1 E = ND)

LDC #: 24989 I1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVC
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

FF = X, 8

Blank units: ug /L **Associated sample units:** ug /L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: K = 1 X 8 Code: F

(from 280-11638-1) Compound	EB-011411-19 Blank ID	Blank ID	Sample Identification							
Sampling Date	1/14/11		1							
~~Methylene chloride~~ K	2.5		2.5 U							
~~Acetone~~ FF	0.4									
Chloroform										
CRQL										

Blank units: ug /L **Associated sample units:** ug /L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 1 (ND)

(from 280-11605-1) Compound	EB_RD-67_011311 Blank ID	Blank ID	Sample Identification							
Sampling Date	1/13/11									
~~Methylene chloride~~ K	5.8									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 28, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12062-1

Sample Identification

PZ-060_012811_01
RD-49A_012811_01
TB_RD-49_012811
RS-34_012811_01
TB_RS-34_012811
HAR-30_012811_01
EB_PZ-154_012811
PZ-154_012811_01
TB_PZ-154_012811

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_RD-49_012811, TB_RS-34_012811, and TB_PZ-154_012811 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Samples EB_RD_67_011311 (from SDG 280-11605-1) and EB_PZ-154_012811 were identified as equipment blanks. No 1,4-Dioxane was found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
1,4-Dioxane - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-1	PZ-060_012811_01 RD-49A_012811_01 TB_RD-49_012811 RS-34_012811_01 TB_RS-34_012811 HAR-30_012811_01 EB_PZ-154_012811 PZ-154_012811_01 TB_PZ-154_012811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

LDC #: 24989I1b

SDG #: 280-12062-1

Laboratory: Test America Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/02/11

Page: 1 of 1

Reviewer: JVC

2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3,5,9 EB = 7 FB = FB-011911_19 EB-RD-67_011311 (280-116054-1) (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

+ 1	PZ-060_012811_01	− 11	MB 280-52347/7	21		31	
− 2	RD-49A_012811_01	12		22		32	
− 3	TB_RD-49_012811	13		23		33	
− 4	RS-34_012811_01	14		24		34	
− 5	TB_RS-34_012811	15		25		35	
− 6	HAR-30_012811_01	16		26		36	
− 7	EB_PZ-154_012811	17		27		37	
+ 8	PZ-154_012811_01	18		28		38	
− 9	TB_PZ-154_012811	19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 28, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level IV & V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12062-1

Sample Identification

EB_PZ-060_012811**
PZ-060_012811_01**
PZ-060_012811_36**
FB_PZ-060_012811_19**
RD-49A_012811_01
RS-34_012811_01
HAR-30_012811_01
EB_PZ-154_012811
PZ-154_012811_01

**Indicates sample underwent Level IV review

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Samples indicated by a double asterisk on the front cover underwent a Level IV review. A Level V review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level V criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent difference (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Samples EB_PZ-060_012811** and EB_PZ-154_012811 were identified as equipment blanks. No semivolatile contaminants were found in these blanks.

Samples FB_PZ-060_012811_19** and FB_011411_19 (from SDG 280-11638-1) were identified as equipment blanks. No semivolatile contaminants were found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits for samples on which a Level IV review was performed. Internal standards were not evaluated for the samples reviewed by Level V criteria.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a Level IV review was performed.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level V criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-060_012811_01** and PZ-060_012811_36** were identified as field duplicate samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-060_012811_01**	PZ-060_012811_36**			
Bis(2-ethylhexyl)phthalate	0.96	1.1	14 (≤35)	-	-
Diethyl phthalate	1.1	1.6	37 (≤35)	NQ	-

Samples PZ-060_012811_01** and PZ-060-012811_03 (from SDG IUB0488) were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-060_012811_01**	PZ-060-012811_03			
Bis(2-ethylhexyl)phthalate	0.96	9.4U	163	NQ	-
Diethyl phthalate	1.1	5.0	128	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-1	EB_PZ-060_012811** PZ-060_012811_01** PZ-060_012811_36** FB_PZ-060_012811_19** RD-49A_012811_01 RS-34_012811_01 HAR-30_012811_01 EB_PZ-154_012811 PZ-154_012811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

LDC #: 24989I2a **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11
SDG #: 280-12062-1 Level V/IV Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JG
2nd Reviewer: Q

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%, RSD ≤ 30 % rr
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 25 %
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	D = 2, 3 S = 2 + PZ-060_012811-03 (from IUB0F58)
XVII.	Field blanks	ND	EB = 1 8 FB = 4 + FB_011411_19 (from 280-11638-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ** level IV

Water

1	EB_PZ-060_012811 **	11	MB 280-51246/1A	21		31	
2	PZ-060_012811_01 ** D	12		22		32	
3	PZ-060_012811_36 ** D	13		23		33	
4	FB_PZ-060_012811_19 **	14		24		34	
5	RD-49A_012811_01	15		25		35	
6	RS-34_012811_01	16		26		36	
7	HAR-30_012811_01	17		27		37	
8	EB_PZ-154_012811	18		28		38	
9	PZ-154_012811_01	19		29		39	
10		20		30		40	

Full = 1-4, 8, 9
MB = 5-7

LDC #: 24989 I 2a

VALIDATION FINDINGS CHECKLIST

Reviewer: JVR
2nd Reviewer: Q

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?		✓		
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC#:24989I2a

VALIDATION FINDINGS WORKSHEET
Field Duplicate

Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270C)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent Only)
	2	3		
Bis(2-ethylhexyl)phthalate	0.96	1.1	14	
Diethyl phthalate	1.1	1.6	37	NQ

V:\FIELD DUPLICATES\24989I2a.wpd

LDC#:24989I2a **VALIDATION FINDINGS WORKSHEET** Page: 1 of 1
Field Split Reviewer: MC
2nd Reviewer: JC

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270C)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent Only)
	2	PZ-060_012811_03		
Bis(2-ethylhexyl)phthalate	0.96	9.4U	163	NQ
Diethyl phthalate	1.1	5.0	128	NQ

V:\FIELD DUPLICATES\24989I2a(FS).wpd

LDC #: _____

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: ____ of ____
Reviewer: JVG
2nd Reviewer: _____

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)		Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	11/12/2010	Phenol	(IS1)	1.5217	1.5217	1.5543	1.5543	2.5	2.54
	MSS Y		Naphthalene	(IS2)	1.0200	1.0200	1.0504	1.0504	4.9	4.92
			Fluorene	(IS3)	1.2572	1.2572	1.3009	1.3009	2.6	2.56
			Hexachlorobenzene	(IS4)	0.2343	0.2343	0.2475	0.2475	2.9	2.88
			bis(2eh)phthalate	(IS5)	0.6242	0.6242	0.6101	0.6101	7.4	7.44
			Benzo(g,h,i)perylene	(IS6)	0.9689	0.9689	0.9898	0.9898	4.3	4.32

onc IS/Cpd	Area cpd	Area IS
40/50	530950	279144
40/50	1377632	1080528
40/50	1086900	691624
40/50	344164	1175077
40/50	1046040	1340546
40/50	1563397	1290835

Conc	Phenol	Naphthalene	Fluorene	Hexachlorob	bis(2eh)phthalat	Benzo(g,h,i)per
4.00		1.1382	1.3070		0.5326	0.9440
10.00	1.5893	1.0781	1.3442	0.2488	0.5589	0.9236
20.00	1.5951	1.0731	1.3252	0.2418	0.5965	0.9815
50.00	1.5217	1.0200	1.2572	0.2343	0.6242	0.9689
80.00	1.5957	1.0777	1.3370	0.2544	0.6705	1.0495
120.00	1.5542	1.0350	1.2972	0.2497	0.6445	1.0128
160.00	1.5186	1.0077	1.2749	0.2504	0.6271	1.0233
200.00	1.5053	0.9731	1.2643	0.2534	0.6267	1.0147
X =	1.5543	1.0504	1.3009	0.2475	0.6101	0.9898
S =	0.0395	0.0517	0.0333	0.0071	0.0454	0.0428

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 34989 I2a

VALIDATION FINDINGS WORSHEET
Continuing Calibration Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	Y8220	02/03/11	Phenol (IS1)	1.5543	1.6536	1.6536	6.4	6.4
			Naphthalene (IS2)	1.0504	1.0323	1.0323	1.7	1.7
			Fluorene (IS3)	1.3009	1.2587	1.2587	3.2	3.2
			Hexachlorobenzene (IS4)	0.2475	0.2285	0.2285	7.7	7.7
			bis(2eh)phthalate (IS5)	0.6101	0.6314	0.6314	3.5	3.5
			Benzo(g,h,i)perylene (IS6)	0.9898	0.9879	0.9879	0.2	0.2

Compound (Reference IS)	Concentration (IS/Cpd)	Area Cpd	Area IS
Phenol (IS1)	40/80	1034790	312884
Naphthalene (IS2)	40/80	2480548	1201409
Fluorene (IS3)	40/80	1882541	747813
Hexachlorobenzene (IS4)	40/80	572784	1253485
bis(2eh)phthalate (IS5)	40/80	1778979	1408803
Benzo(g,h,i)perylene (IS6)	40/80	2638763	1335581

LDC #: 24989 I2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd reviewer:

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	66.22	66	66	0
2-Fluorobiphenyl		57.52	58	58	
Terphenyl-d14		58.73	59	59	
Phenol-d5	150	115.03	77	77	
2-Fluorophenol		104.06	69	69	
2,4,6-Tribromophenol		114.98	77	77	
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 24989 I2c

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS/D 280-51296/2,3-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	80.0	80.6	73.3	66.6	92	92	83	83	10	10
N-Nitroso-di-n-propylamine			69.1	67.9	86	86	85	85	2	2
4-Chloro-3-methylphenol			72.3	69.8	90	90	87	87	4	4
Acenaphthene			66.7	64.9	83	83	81	81	3	3
Pentachlorophenol			71.4	68.2	89	89	85	85	5	5
Pyrene	↓	↓	78.1	76.0	98	98	95	95	3	3

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 24989 I 2A

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JG
2nd reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_t = Volume of the concentrated extract in microliters (ul)

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #7 , _____:

Conc. = $\frac{(18071)(40)(1\ ml)(1000)(\quad)}{(1243645)(0.610)(995.8)(\quad)(\quad)}$

= 0.9565

≈ 0.96 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 28, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12062-1

Sample Identification

PZ-060_012811_01
RD-49A_012811_01
RS-34_012811_01
HAR-30_012811_01
EB_PZ-154_012811
PZ-154_012811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-154_012811 was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Samples FB_RS-34_012811_19 and FB_PZ_154_012811_19 (both from SDG 280-12062-2) and sample FB_011411_19 (from SDG 250-11638-1) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

The laboratory indicated the samples were extracted for 8 hours. The method requires the samples be extracted for a minimum of eighteen hours.

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RS-34_012811_01 and RS-34_012811_36 (from SDG 280-12062-2) and samples PZ-154_012811_01 and PZ-154-012811_36 (also from SDG 280-12062-2) were identified as field duplicate samples. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flags	A or P
	RS-34_012811_01	RS-34_012811_36				
N-Nitrosodimethylamine	0.015	0.015	0 (≤35)	-	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flags	A or P
	PZ-154_012811_01	PZ-154-012811_36				
N-Nitrosodimethylamine	0.023	0.025	8 (≤35)	-	-	-

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-1	PZ-060_012811_01 RD-49A_012811_01 RS-34_012811_01 HAR-30_012811_01 EB_PZ-154_012811 PZ-154_012811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

LDC #: 24989I2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11
SDG #: 280-12062-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: A

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D1 = 3 + RS34_012811_36 D2 = 6 + PZ-154_012811_36
XVII.	Field blanks	ND	EB = 5 FB = FB_RS-34_012811_19 = FB_PZ-154_012811_19 FB-011411-19 (280-11638-1) from 280-12062-2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	PZ-060_012811_01	11	MB 280-51811/1-A	21		31	
2	RD-49A_012811_01	12		22		32	
3	RS-34_012811_01 D1	13		23		33	
4	HAR-30_012811_01	14		24		34	
5	EB_PZ-154_012811	15		25		35	
6	PZ-154_012811_01 D2	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:24989I2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	3 RS-34_012811_01	RS-34_012811_36		
NDMA	0.015	0.015	0	[illegible]

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	PZ-154_012811_01	PZ-154_012811_36		
NDMA	0.023	0.025	8	

V:\FIELD DUPLICATES\24989I2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 28, 2011
LDC Report Date:	March 15, 2011
Matrix:	Water
Parameters:	Chlorinated Pesticides
Validation Level:	Level IV
Laboratory:	GEL Laboratories, Inc.
Sample Delivery Group (SDG):	280-12062-1

Sample Identification

EB_PZ-060_012811
PZ-060_012811_01
PZ-060_012811_36
FB_PZ-060_012811_19

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB_PZ-060_012811 was identified as an equipment blank. No chlorinated pesticide contaminants were found in this blank.

Samples FB_011411_19 (from SDG 250-11638-1) and FB_PZ-060_012811_19 were identified as field blanks. No chlorinated pesticide contaminants were found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-1	All compounds reported below the RL.	J (all detects)	A

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples PZ-060_012811_01 and PZ-060_012811_36 were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

Samples PZ-060_012811_01 and PZ-060-012811_03 (from SDG IUB0488) were identified as split samples. No chlorinated pesticides were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-1	EB_PZ-060_012811 PZ-060_012811_01 PZ-060_012811_36 FB_PZ-060_012811_19	All compounds reported below the RL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

LDC #: 24989I3a

SDG #: 280-12062-1

Laboratory: GEL Laboratories LLC

VALIDATION COMPLETENESS WORKSHEET

Level ~~V/IV~~ I V

Date: 3/02/11

Page: 1 of 1

Reviewer: VC

2nd Reviewer: Q

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	2 RSD ≤20 2 rr
IV.	Continuing calibration/ICV	A	CCV/ICV ≤20 2
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	
XII.	Compound quantitation and reported CRQLs	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates /Split	ND	D = 2, 3 S = 2 + PZ-060_012811_03 (from IUB0488)
XV.	Field blanks	ND	EB = 1, 2 FB = 4 FB_011411_19 (280-11838-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:** level IV Water

1	EB_PZ-060_012811 **	11	MB 280-51249/1-A	21		31	
2	PZ-060_012811_01 ** D	12		22		32	
3	PZ-060_012811_36 ** D	13		23		33	
4	FB_PZ-060_012811_19 **	14		24		34	
5	~~EB_PZ-154_012811~~	15		25		35	
6	~~PZ-154_012811_01~~	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 24989 I3c

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: CL

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	✓			
Did the initial calibration meet the curve fit acceptance criteria?	✓			
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ____%R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recovieries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	✓			
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.		✓		
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. Arochlor 1262
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Arochlor 1268
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK. oxy Chlordane
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL. trans-Nonachlor
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM. cis-Nonachlor
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes:_____

LDC #: 24989 E3A

VALIDATION FINDINGS WORKSHEET

Initial Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: 9

METHOD: GC Pesticides (EPA SW 846 Method 8081)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where
A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,
A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound	Reported RRF (100 std)	Recalculated RRF (100 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	1/31/2011	Endosulfan I (CLP1)	14865	14865	15254	15254	3.1	3.1
	GCS P2		4,4'-DDT (CLP1)	13065	13065	12272	12272	8.3	8.3
			Endosulfan I (CLP2)	see r2 calculations					
			4,4'-DDT (CLP2)	26030	26030	27775	27775	5.5	5.5

Compound	Conc	Response cpd
Endosulfan I (CLP1)	100	1486488
4,4'-DDT (CLP1)	100	1306452
Endosulfan I (CLP2)	100	
4,4'-DDT (CLP2)	100	2602983

	CLP1		CLP2	
Conc	Endusulfan I	4,4'-DDT	Endusulfan I	4,4'-DDT
4	15717	10858		30261
10	15325	11571		28434
25	14554	11724		26537
50	15748	13399		28178
75	15317	13015		27210
100	14865	13065		26030
S =	15254	12272	#DIV/0!	27775
X =	471	1024	#DIV/0!	1528

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 24989 I3A

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: AVG
2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

Parameter: Endosulfan I

Order of regression: Linear

Date	Column	Compound	Points	x area	y conc	RF
31-Jan-11	CLP2	Endosulfan I	Point 1	161838	4	40460
			Point 2	361575	10	36158
			Point 3	815929	25	32637
			Point 4	1719876	50	34398
			Point 5	2460989	75	32813
			Point 6	3107652	100	31077
						Ave 34590

Regression Output: Regression Output:		Reported WLR	
Constant	-1.92482	b =	-1.0510275
Std Err of Y Est	0.04		
R Squared	0.99718	r^2 =	0.99840
No. of Observations	6.00		
Degrees of Freedom	4.00		
		m1 =	32177.1297
X Coefficient(s)	31223.26979		
Std Err of Coef.	0.01		

LDC # 24980 I3a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC Pesticides (EPA SW 846 Method 8081)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound,
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Average RRF Conc	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated %D
1	005f0501	2/2/2011	Endosulfan I (CLP1)	50.00	50.9	50.9	1.7	1.7
			4,4'-DDT (CLP1)	50.00	51.8	51.8	3.5	3.5
			Endosulfan I (CLP2)	50.00	51.4	51.4	2.7	2.7
			4,4'-DDT (CLP2)	50.00	47.6	47.6	4.8	4.8
2								

CCV1

Compound	CF	Response
Endosulfan I (CLP1)	15254	775905
4,4'-DDT (CLP1)	12272	635283
Endosulfan I (CLP2)		
4,4'-DDT (CLP2)	27775	1322268

	Response	b	m	conc
Endosulfan I CLP2	1686617	-1.0510275	32177.1297	51.37

LDC #: 24989 I3a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: JV

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 7

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene	CLP1	20	11.312	~~72~~ 57	57	0
Decachlorobiphenyl	↓	↓	14.38	~~57~~ 72	72	↓
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 24989 I3A

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration
SA = Spike added
SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS/D 280-51249/2,3-A

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC	0.500	0.500	0.484	0.487	97	97	97	97	1	1
4,4'-DDT	↓	↓	0.506	0.507	101	101	100	100	1	1
Aroclor 1260										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 24989 3a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. _____ MB :

Conc. = _____

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 28, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12062-1

Sample Identification

EB_PZ-154_012811
PZ-154-012811_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_PZ-154_012811 was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-1	EB_PZ-154_012811 PZ-154-012811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

LDC #: 24989I3ab

SDG #: 280-12062-1

Laboratory: GEL Laboratories LLC

VALIDATION COMPLETENESS WORKSHEET

Level V~~IV~~

Date: 3/6/11

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC PCBs (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	↓	
IV.	Continuing calibration/ICV	↓	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	↓	
Xb.	GPC Calibration	↓	
XI.	Target compound identification	↓	
XII.	Compound quantitation and reported CRQLs	↓	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 1 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-154_012811	11	MB 280-51258/1-A	21		31	
2	PZ-154_012811_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 28, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12062-1

Sample Identification

RD-49A_012811_01
RS-34_012811_01
HAR-30_012811_01
RD-49A_012811_01F
RS-34_012811_01F
HAR-30_012811_01F
EB_PZ-154_012811F
PZ-154_012811_01F
HAR-30_012811_01MS
HAR-30_012811_01MSD
EB_PZ-154_012811FMS
EB_PZ-154_012811FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese	0.000760 mg/L	RD-49A_012811_01F RS-34_012811_01F HAR-30_012811_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-34_012811_01F	Manganese	0.0059 mg/L	0.0059U mg/L

Sample EB_PZ-154_012811F was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-154_012811	1/28/11	Boron Iron	0.0016 mg/L 0.073 mg/L	PZ-154_012811_01F

Sample FB_011411_19F (from SDG 280-11638-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-154_012811_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-154_012811_01F	Iron	0.089 mg/L	0.089U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12062-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12062-1	RD-49A_012811_01 RS-34_012811_01 HAR-30_012811_01 RD-49A_012811_01F RS-34_012811_01F HAR-30_012811_01F EB_PZ-154_012811F PZ-154_012811_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12062-1	RS-34_012811_01F	Manganese	0.0059U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12062-1	PZ-154_012811_01F	Iron	0.089U mg/L	A	F

LDC #: 24989I4 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/11
SDG #: 280-12062-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6010B/6020/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=9 ; FB= FB_011411_19F

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate (CSDG:280-11638-1)
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-49A_012811_01	11	HAR-30_012811_01MS	21		31	
2	RS-34_012811_01	12	HAR-30_012811_01MSD	22		32	
3	HAR-30_012811_01	13	EB_PZ-154_012811FMS	23		33	
~~4~~	~~EB_PZ-154_012811~~	14	EB_PZ-154_012811FMSD	24		34	
~~5~~	~~PZ-154_012811_01~~	15		25		35	
6	RD-49A_012811_01F	16		26		36	
7	RS-34_012811_01F	17		27		37	
8	HAR-30_012811_01F	18		28		38	
9	EB_PZ-154_012811F	19		29		39	
10	PZ-154_012811_01F	20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

DC #: C-1067-L4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: W

If circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-3,6,8		Al, Sb, As, Ba, Be, Cd, (Ca) Cr, Co, Cu, (Fe) Pb, (Mg, Mn) Hg, Ni, (K) Se, Ag, (Na) Tl, V, (Zn) Mo, B, Si, CN, (SC)
7,10		(Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
9,11,12		Al, Sb, As, Ba, Be, Cd, (Ca) Cr, Co, Cu, (Fe) Pb, (Mg, Mn) Hg, Ni, (K) Se, Ag, (Na) Tl, V, (Zn) Mo, B, Si, CN, (SC)
13,14		Al, Sb, (As, Ba, Be, Co) Ca, (Cr, Co, Cu) Fe, (Pb) Mg, (Mn) Hg, (Ni) K, (Se, Ag) Na, (Tl, V, Zn, Mo) B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo,

LDC #: 24989I4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 6-8

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	7									
Mn		0.000760		0.0038	0.0059									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 249891 4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 10

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

Sampling date: 1/28/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 10

Analyte	Blank ID	Sample Identification										
	9	Action Level	10									
B	0.0016	0.008										
Fe	0.073	0.365	0.089									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 28, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12062-1

Sample Identification

PZ-060_012811_01
RD-49A_012811_01
RS-34_012811_01
RS-34_012811_01A
HAR-30_012811_01
EB_PZ-154_012811
PZ-154_012811_01
PZ-060_012811_01MS
PZ-060_012811_01MSD
PZ-060_012811_01DUP
RD-49A_012811_01DUP
RS-34_012811_01ADUP
HAR-30_012811_01DUP
PZ-154_012811_01MS
PZ-154_012811_01MSD
PZ-154_012811_01DUP

Introduction

This data review covers 16 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphate, and Sulfate, EPA Method 314.0 for Perchlorate, EPA Method 9040B for pH, Standard Method 2540C for Total Dissolved Solids, Standard Method 2320B for Alkalinity, EPA Method 180.1 for Turbidity, and Standard Method 2510B for Specific Conductance.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB	Ammonia as N	0.0731 mg/L	PZ-060_012811_01 RD-49A_012811_01 RS-34_012811_01 HAR-30_012811_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-060_012811_01	Ammonia as N	0.26 mg/L	0.26U mg/L
RD-49A_012811_01	Ammonia as N	0.13 mg/L	0.13U mg/L
RS-34_012811_01	Ammonia as N	0.083 mg/L	0.083U mg/L
HAR-30_012811_01	Ammonia as N	0.14 mg/L	0.14U mg/L

Sample EB_PZ-154_012811 was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-154_012811	1/28/11	Orthophosphate as P	0.83 mg/L	PZ-154_012811_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Sulfate	0.37 mg/L	PZ-154_012811_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12062-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12062-1	PZ-060_012811_01 RD-49A_012811_01 RS-34_012811_01 RS-34_012811_01A HAR-30_012811_01 EB_PZ-154_012811 PZ-154_012811_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12062-1	PZ-060_012811_01	Ammonia as N	0.26U mg/L	A	B
280-12062-1	RD-49A_012811_01	Ammonia as N	0.13U mg/L	A	B
280-12062-1	RS-34_012811_01	Ammonia as N	0.083U mg/L	A	B
280-12062-1	HAR-30_012811_01	Ammonia as N	0.14U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

LDC #: 24989I6
SDG #: 280-12062-1
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/3/11
Page: 1 of 1
Reviewer: CR
2nd Reviewer: V

METHOD: (Analyte) Ammonia-N (EPA Method 350.2), Bromide, Chloride, Fluoride, Nitrate-N, Nitrite-N, Orthophosphate, Sulfate (EPA Method 300.0), ~~Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A)~~, Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), TDS (SM2540C), Alkalinity (SM2320B), Turbidity (180.1), Specific Conductance (SM2510B), PO_4
The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	Dup
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	SW	EB=6; FB= FB_011411-19 (SDG: 280-16638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-060_012811_01	11	RD-49A_012811_01DUP	21		31	
2	RD-49A_012811_01	12	RS-34_012811_01ADUP	22		32	
3	RS-34_012811_01	13	HAR-30_012811_01DUP	23		33	
4	RS-34_012811_01A	14	PZ-154_012811_01MS	24		34	
5	HAR-30_012811_01	15	PZ-154_012811_01MSD	25		35	
6	EB_PZ-154_012811	16	PZ-154_012811_01DUP	26		36	
7	PZ-154_012811_01	17		27		37	
8	PZ-060_012811_01MS	18		28		38	
9	PZ-060_012811_01MSD	19		29		39	
10	PZ-060_012811_01DUP	20		30		40	

Notes:

LDC #: 24488I6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: W

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		pH TDS Cl (F) NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO_4)
2		(pH) (TDS) Cl F NO_3 NO_2 (SO_4) PO_4 (ALK) CN^- (NH_3) TKN TOC CR^{6+} (ClO_4) (Turb) (Cond.)
3,5		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
4		pH TDS Cl F NO_3 NO_2 (SO_4) PO_4 (ALK) CN^- NH_3 TKN TOC CR^{6+} (ClO_4) (Turb) (Cond)
6,7		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Br)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC: 8		pH TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
9		pH TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
10		pH TDS Cl (F) (NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
11		pH (TDS) Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Cond)
12		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Turb) (Cond)
13		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4) (Cond)
14		pH TDS Cl F (NO_3 NO_2) SO_4 (PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
15		pH TDS Cl F (NO_3 NO_2) SO_4 (PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
16		pH TDS Cl F (NO_3 NO_2) SO_4 (PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 24989I6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: SL
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples: 1-3, 5** **Reason Code: B**

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		1	2	3	5						
NH3-N	0.0731		0.3655	0.26	0.13	0.083	0.14						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24989I6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason: F
Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 7

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		No Qualifiers							
Sulfate	0.37	1.85								

Sampling date: 1/28/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 7

Analyte	Blank ID	Action Limit	Sample Identification							
	6		No Qualifiers							
Orthophosphate as Phosphate	0.83	4.15								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 28, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	Diesel Range Organics
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12062-1

Sample Identification

PZ-060_012811_01
RD-49A_012811_01
RS-34_012811_01
HAR-30_012811_01
EB_PZ-154_012811
PZ-154_012811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_PZ-154_012811 was identified as an equipment blank. No diesel range organic contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Diesel Range Organics - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-1	PZ-060_012811_01 RD-49A_012811_01 RS-34_012811_01 HAR-30_012811_01 EB_PZ-154_012811 PZ-154_012811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

LDC #: 2498918 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11
SDG #: 280-12062-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: DC
2nd Reviewer:

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	EB = 5 FB = FB_011411_19 from 280-11638-1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1 +	PZ-060_012811_01	11	MB 280-51593/1-A	21		31	
2 +	RD-49A_012811_01	12		22		32	
3 —	RS-34_012811_01	13		23		33	
4 —	HAR-30_012811_01	14		24		34	
5 —	EB_PZ-154_012811	15		25		35	
6 +	PZ-154_012811_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 28, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12062-1/A1A290425

Sample Identification

PZ-060_012811_01
RD-49A_012811_01
RS-34_012811_01
HAR-30_012811_01
EB_PZ-154_012811
PZ-154_012811_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Samples EB_PZ-154_012811 and EB_SH-04_020311 (from SDG 280-12215-1) were identified as equipment blank. No formaldehyde was found in these blanks.

Sample FB_1011411_19 (from SDG 11638-1) was identified as a field blank. No formaldehyde was found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_1011411_19	1/28/11	Formaldehyde	21 ug/L	PZ-060_012811_01 PZ-154_012811_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-060_012811_01	Formaldehyde	31 ug/L	50U ug/L

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-1/A1A290425	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-12062-1/A1A290425

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-1/A1A290425	PZ-060_012811_01 RD-49A_012811_01 RS-34_012811_01 HAR-30_012811_01 EB_PZ-154_012811 PZ-154_012811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-12062-1/A1A290425

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-12062-1/A1A290425

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12062-1/A1A290425	PZ-060_012811_01	Formaldehyde	50U ug/L	A	F

LDC #: 24979I71 (8) **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11

SDG #: 280-12062-1/A1A290425 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: JVC

2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW	EB = 5 FB = FB_011411_19 EB = EB_SH-04_0203 from 280-11638-1 from 280-1221

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-060_012811_01	11	10 31035-MB	21		31	
2	RD-49A_012811_01	12		22		32	
3	RS-34_012811_01	13		23		33	
4	HAR-30_012811_01	14		24		34	
5	EB_PZ-154_012811	15		25		35	
6	PZ-154_012811_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24989 I 71

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: ___ GC / HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 1/28/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: 6 (ENV) 1, ~~5~~, 6 Code: 1

Compound	Blank ID	Blank ID	Sample Identification							
from 280-11678-1)	FB-011411-19		1							
Formaldehyde	21		21/50U							
CRQL										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 28, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12062-1

Sample Identification

PZ-060_012811_01
RD-49A_012811_01
RS-34_012811_01
HAR-30_012811_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as an equipment blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-12062-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-1	PZ-060_012811_01 RD-49A_012811_01 RS-34_012811_01 HAR-30_012811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-12062-1

No Sample Data Qualified in this SDG

LDC #: 24989I76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/11

SDG #: 280-12062-1 Level V Page: 1 of 2

Laboratory: Test America, Inc. Reviewer: CR

2nd Reviewer: L

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
~~IVa.~~	~~Surrogate recovery~~	~~N~~	~~Not required~~
IVb.	Matrix spike/Matrix spike duplicates	N	Client specified
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	FB_011411_19 (280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-060_012811_01	11	DBW	21		31	
2	RD-49A_012811_01	12		22		32	
3	RS-34_012811_01	13		23		33	
4	HAR-30_012811_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 24989I76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: W

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,2		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
3,4		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 28, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12062-2

Sample Identification

RS-34_012811_36
FB_RS-34_012811_19
PZ-154_012811_36
FB_PZ-154_012811_19

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-154_012811 (from SDG 280-12062-1) was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Samples FB_011411_19 (from SDG 280-11638-1), FB_RS-34_012811_19, and FB_PZ-154_012811_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12062-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RS-34_012811_01 (from SDG 280-12062-1) and RS-34_012811_36 and samples PZ-154_012811_01 (also from SDG 280-12062-1) and PZ-154_012811_36 were identified as split samples. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RS-34_012811_01	RS-34_012811_36			
N-Nitrosodimethylamine	0.015	0.015	0 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-154_012811_01	PZ-154_012811_36			
N-Nitrosodimethylamine	0.023	0.025	8 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12062-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12062-2	RS-34_012811_36 FB_RS-34_012811_19 PZ-154_012811_36 FB_PZ-154_012811_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12062-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12062-2

No Sample Data Qualified in this SDG

LDC #: 24989J2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11
SDG #: 280-12062-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS ID
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D1 = 1 + RS-34_012811_01 D2 = 3 + PZ-154_012811_01 > from 280-12062-1
XVII.	Field blanks	ND	FB = 2, 4 EB = EB_PZ-154_012811 = FB_011911_19 (from 280-11638-1) (from 280-12062-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

+ 1	RS-34_012811_36 D	11	MB 280-51640/1-A	21		31	
− 2	FB_RS-34_012811_19	12		22		32	
+ 3	PZ-154_012811_36 D	13		23		33	
− 4	FB_PZ-154_012811_19	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:24989J2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625)

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	RS-34_012811_01	RS-34_012811_36		
NDMA	0.015	0.015	0	~~Jdet/A (*?)~~

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	PZ-154_012811_01	PZ-154_012811_36		
NDMA	0.023	0.025	8	

V:\FIELD DUPLICATES\24989J2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 28, 2011

LDC Report Date: March 15, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12063-1/H1B030429

Sample Identification

EB_PZ-154_012811
PZ-154_012811_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Sample EB_PZ-154_012811 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11646-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.70 pg/L 0.42 pg/L 0.48 pg/L 1.3 pg/L 2.2 pg/L 0.48 pg/L 0.40 pg/L 0.50 pg/L 0.52 pg/L 0.78 pg/L 0.78 pg/L 0.74 pg/L 2.0 pg/L	PZ-154_012811_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12063-1/H1B030429	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-12063-1/H1B030429

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12063-1/ H1B030429	PZ-154_012811_01 EB_PZ-154_012811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-12063-1/H1B030429

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-12063-1/H1B030429

No Sample Data Qualified in this SDG

LDC #: 24989K21 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/02/11
SDG #: 280-12063-1/H1B30429 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	*EB = 1 FB = FB_01K11_19 (from 280-11678-1 11645-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-154_012811	11	103525S_MB	21		31	
2	PZ-154_012811_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 29989_K21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: MC
2nd Reviewer: [signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: ~~ug~~ pg/L **Associated sample units:** pg/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 2 (ND)

Compound	Blank ID	Sample Identification								
(from 280-11648-1)	FB-011411-19									
B	0.70									
C	0.47									
E	0.48									
F	1.3									
G	2.2									
I	0.48									
CRQL J	6.40									

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples:

Compound	Blank ID	Sample Identification								
K	0.50									
M	0.52									
N	0.78									
O	0.78									
P	0.74									
Q	2.0									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01
TB_PZ-144_020111
RS-07_020111_01
TB_RS-07_020111
RD-03_020111_01
RD-48C_020111_01
WS-04A_020111_01
RD-43B_020111_01
RD-61_020111_01
TB_RD-61_020111
RD-32_020111_01
RD-69_020111_01
HAR-01_020111_01
PZ-144_020111_01MS
PZ-144_020111_01MSD

Introduction

This data review covers 16 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-52472/6	2/9/11	Methylene chloride	0.444 ug/L	All samples in SDG 280-12139-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_PZ-144_020111	Methylene chloride	0.35 ug/L	1.0U ug/L

Samples TB_PZ-144_020111, TB_RS-07_020111, and TB_RD-61_020111 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_PZ-144_020111	2/1/11	Methylene chloride	0.35 ug/L	EB_PZ-144_020111 PZ-144_020111_01

Samples EB_PZ-144_020111 and EB_RD-67_011311 (from SDG 280-11605-1) were identified as equipment blanks. No volatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-144_020111	2/1/11	Chloroform	2.4 ug/L	PZ-144_020111_01
EB_RD-67_011311	1/31/11	Chloroform	5.8 ug/L	RS-07_020111_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform	2.5 ug/L	PZ-144_020111_01 RS-07_020111_01
FB_011411_19	1/14/11	Styrene	0.40 ug/L	PZ-144_020111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-144_020111_01MS/MSD (PZ-144_020111_01)	Methyl-tert-butyl ether	56 (58-120)	-	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG280-12139-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1	PZ-144_020111_01	Methyl-tert-butyl ether	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01 TB_PZ-144_020111 RS-07_020111_01 TB_RS-07_020111 RD-03_020111_01 RD-48C_020111_01 WS-04A_020111_01 RD-43B_020111_01 RD-61_020111_01 TB_RD-61_020111 RD-32_020111_01 RD-69_020111_01 HAR-01_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12139-1	TB_PZ-144_020111	Methylene chloride	1.0U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

LDC #: 24989L1a

SDG #: 280-12139-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/03/11

Page: 1 of 1

Reviewer: VV6

2nd Reviewer: [signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 1 TB = 3 5 11, EB_RD-67011311 FB_011411_19(280-11638-1) (280-11605-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	EB_PZ-144_020111	11	TB_RD-61_020111	21	MB 280-51949/6	31	
2	PZ-144_020111_01	12	RD-32_020111_01	22	MB 280-52473/6	32	
3	TB_PZ-144_020111	13	RD-69_020111_01	23		33	
4	RS-07_020111_01	14	HAR-01_020111_01	24		34	
5	TB_RS-07_020111	15	PZ-144_020111_01MS	25		35	
6	RD-03_020111_01	16	PZ-144_020111_01MSD	26		36	
7	RD-48C_020111_01	17		27		37	
8	WS-04A_020111_01	18		28		38	
9	RD-43B_020111_01	19		29		39	
10	RD-61_020111_01	20		30		40	

Std = 1, 2, 3

VOCs + IPA = 4-7, 9, 11, 14

VOCs = 8, 10, 12, 13

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 24989L1a

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: E

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 2/09/11
Conc. units: ug/L
Associated Samples: All
Code: B

Compound	Blank ID	Sample Identification								
MB	280-52473/6		3							
Methylene chloride E	0.444		0.35/1.04							
Acetone										
CRQL										

Blank analysis date:
Conc. units:
Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24989L1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 1, 2 (ND)

Compound	Blank ID 3	Blank ID	Sample Identification							
Sampling Date	2/01/11									
Methylene chloride E	0.35									
Acetone										
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 2 (ND)

Compound	Blank ID 1	Blank ID	Sample Identification							
Sampling Date	2/01/11									
~~Methylene chloride~~ k	2.4									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24989 L1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 2
Reviewer: VG
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

(Y) N /N/A Were field blanks identified in this SDG?
Y/N N/A Were target compounds detected in the field blanks?

K = 1, 2, 4

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) (Field Blank) / Rinsate / Trip Blank / Other: Associated Samples: FF = ±2 Code: F

(from 280-11628-1) Compound	FB-011411-19 Blank ID	Blank ID	Sample Identification							
Sampling Date	1/14/11		1							
~~Methylene chloride~~ K	2.5		2.4/U							
~~Acetone~~ FF	0.40									
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 4 (ND)

(from 280-11605-1) Compound	EB_RD-67_011311 Blank ID	Blank ID	Sample Identification							
Sampling Date	1/13/11									
~~Methylene chloride~~ K	5.8									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24989L1a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: JVC
2nd Reviewer: [illegible]

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	15/16	LL	56 (58-120)	( )	( )	2	J/UJ/A (Q)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01
TB_PZ-144_020111
RS-07_020111_01
TB_RS-07_020111
RD-03_020111_01
RD-48C_020111_01
WS-04A_020111_01
RD-43B_020111_01
RD-61_020111_01
TB_RD-61_020111
RD-32_020111_01
RD-69_020111_01
HAR-01_020111_01

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_PZ-144_020111, TB_RS-07_020111, and TB_RD-61_020111 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Samples EB_RD_67_011311 (from SDG 280-11605-1) and EB_PZ-144_020111 were identified as equipment blanks. No 1,4-Dioxane was found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01 TB_PZ-144_020111 RS-07_020111_01 TB_RS-07_020111 RD-03_020111_01 RD-48C_020111_01 WS-04A_020111_01 RD-43B_020111_01 RD-61_020111_01 TB_RD-61_020111 RD-32_020111_01 RD-69_020111_01 HAR-01_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

LDC #: 24989L1b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12139-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 1 TB = 3 5 11 FB = FB_011411_19 EB_RD-61_011311 (280-11605-1) (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-144_020111	11	TB_RD-61_020111	21	MB 280-52574/9	31	
2	PZ-144_020111_01	12	RD-32_020111_01	22		32	
3	TB_PZ-144_020111	13	RD-69_020111_01	23		33	
4	RS-07_020111_01	14	HAR-01_020111_01	24		34	
5	TB_RS-07_020111	15		25		35	
6	RD-03_020111_01	16		26		36	
7	RD-48C_020111_01	17		27		37	
8	WS-04A_020111_01	18		28		38	
9	RD-43B_020111_01	19		29		39	
10	RD-61_020111_01	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 1, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12139-1/IUB0592

Sample Identification

RD-48C_020111_01
TB_RD-48C_020111
RD-43B_020111_01
RD-61_020111_01
TB_RD-61_020111
RD-32_020111_01

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Samples TB_RD-48C_020111 and TB_RD-61_020111 were identified as trip blanks. No 1,2,3-Trichloropropane was found in these blanks.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1/IUB0592	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-12139-1/IUB0592

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1/IUB0592	RD-48C_020111_01 TB_RD-48C_020111 RD-43B_020111_01 RD-61_020111_01 TB_RD-61_020111 RD-32_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-12139-1/IUB0592

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-12139-1/IUB0592

No Sample Data Qualified in this SDG

LDC #: 24989L1c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12139-1/IUB0592 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VC
2nd Reviewer: [illegible]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/1/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates /Lab Dup	N / A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 5

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-48C_020111_01	11	1130642-BLK1	21		31	
2	TB_RD-48C_020111	12		22		32	
3	RD-43B_020111_01	13		23		33	
4	RD-61_020111_01	14		24		34	
5	TB_RD-61_020111	15		25		35	
6	RD-32_020111_01	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01
RS-07_020111_01
RD-03_020111_01
RD-48C_020111_01
WS-04A_020111_01
RD-43B_020111_01
HAR-01_020111_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_PZ-144_020111 was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01 RS-07_020111_01 RD-03_020111_01 RD-48C_020111_01 WS-04A_020111_01 RD-43B_020111_01 HAR-01_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

LDC #: 24989L2a **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12139-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JG
2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 1 FB = FB_011911_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-144_020111	11	MB 280-51966/1-A	21		31	
2	PZ-144_020111_01	12		22		32	
3	RS-07_020111_01	13		23		33	
4	RD-03_020111_01	14		24		34	
5	RD-48C_020111_01	15		25		35	
6	WS-04A_020111_01	16		26		36	
7	RD-43B_020111_01	17		27		37	
8	HAR-01_020111_01	18		28		38	
9		19		29		39	
10		20		30		40	

FULL = 1, 2
Phthalates + MB = 3, 4, 5, 7, 8
NB = 6

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01
RS-07_020111_01
RD-03_020111_01
RD-48C_020111_01
WS-04A_020111_01
RD-43B_020111_01
RD-32_020111_01
HAR-01_020111_01

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-144_020111 was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Samples FB_HAR_01_020111_19 (from SDG 280-12139-2) and FB_011411_19 (from SDG 280-11638-1) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-01_020111_01 and HAR-01_020111_36 (from SDG 280-12139-2) were identified as field duplicate samples. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-01_020111_01	HAR-01_020111_36			
N-Nitrosodimethylamine	0.0082	0.0088	7 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01 RS-07_020111_01 RD-03_020111_01 RD-48C_020111_01 WS-04A_020111_01 RD-43B_020111_01 RD-32_020111_01 HAR-01_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

LDC #: 24989L2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/63/11
SDG #: 280-12139-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 9 + HAR-01_020111_3c (from 280-12139-2)
XVII.	Field blanks	ND	EB = 1 TB = FB_011411-19 FB = FB_HAR-01_020111-19 (from 280-11638-1) (from 280-12139-2)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	EB_PZ-144_020111	11	MB 280-51811/1-A	21		31	
2	PZ-144_020111_01	12		22		32	
3	RS-07_020111_01	13		23		33	
4	RD-03_020111_01	14		24		34	
5	RD-48C_020111_01	15		25		35	
6	WS-04A_020111_01	16		26		36	
7	RD-43B_020111_01	17		27		37	
8	RD-32_020111_01	18		28		38	
9	HAR-01_020111_01	19		29		39	
10		20		30		40	

LDC#:24989L2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JM
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-01_020111_01	HAR-01_020111_36		
NDMA	0.0082	0.0088	7	

V:\FIELD DUPLICATES\24989L2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 1, 2011
LDC Report Date:	March 7, 2011
Matrix:	Water
Parameters:	Polynuclear Aromatic Hydrocarbons
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-51794/1-A	2/3/11	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.552 ug/L 0.138 ug/L 0.184 ug/L 0.748 ug/L	All samples in SDG 280-12139-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
EB_PZ-144_020111	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.61 ug/L 0.15 ug/L 0.16 ug/L 0.82 ug/L	9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L
PZ-144_020111_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.90 ug/L 0.23 ug/L 0.98 ug/L 0.84 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L

Sample EB_PZ-144_020111 was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-144_020111	2/1/11	Naphthalene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	0.0091 ug/L 0.61 ug/L 0.15 ug/L 0.82 ug/L 0.16 ug/L	PZ-144_020111_01

Sample FB_011411_19 was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Benzo(a)anthracene Chrysene Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.0054 ug/L 0.0037 ug/L 0.0073 ug/L 0.14 ug/L 0.060 ug/L 0.094 ug/L 0.51 ug/L	PZ-144_020111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-144_020111_01	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	0.0091 ug/L 0.90 ug/L 0.59 ug/L 0.23 ug/L 0.84 ug/L 0.98 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-51794/2,3-A (All samples in SDG 280-12139-1)	Butylbenzylphthalate Di-n-octylphthalate	141 (38-120) -	141 (38-120) 133 (39-128)	- -	J (all detects) J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01	Butylbenzylphthalate Di-n-octylphthalate	J (all detects) J (all detects)	P	Laboratory control samples (%R) (L)

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12139-1	EB_PZ-144_020111	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	9.9U ug/L 9.9U ug/L 9.9U ug/L 9.9U ug/L	A	B
280-12139-1	PZ-144_020111_01	Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12139-1	PZ-144_020111_01	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	F

LDC #: 24989L2c

SDG #: 280-12139-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/03/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: [illegible]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	SW	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 1 FB = FD_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-144_020111	11	MB 280-51794/1-A	21		31	
2	PZ-144_020111_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 24989L2c
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: VR
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 2/03/11 **Blank analysis date:** 2/04/11
Conc. units: ug/L Associated Samples: All Code: B

Compound	Blank ID	Sample Identification								
	MB 280-51794/1-A		1	2						
EEE	0.55		0.61 / 9.9U	0.90 / 10U						
XX	0.138		0.15 /	0.23 /						
LL	0.184		0.16 /	0.98 /						
FFF	0.748		0.82 /	0.84 /						

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24989 L2C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: CL

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Sampling date: FB=1/14/11 EB = 2/6/11
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2 Code: F

Compound	Blank ID	EB	Sample Identification							
(from 280-11688-1)	FB_011411_19	1	2							
~~Diethylphthalate~~ CCC	0.0054									
~~Di-n-butylphthalate~~ DDD	0.0037									
Bis(2-ethylhexyl)phthalate S	0.0073	0.0091	0.0091/10 U							
EEE	0.14	0.61	0.90/							
AAA	0.060		0.59/							
XX	0.094	0.15	0.23/							
CRQL FFF	0.5	0.82	0.84/							
LL		0.16	0.98/							

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Diethylphthalate										
Di-n-butylphthalate										
Bis(2-ethylhexyl)phthalate										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24989L2C

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: VG
2nd Reviewer: Q

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?

Y (N) N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS/D 280-51794/2-A	AAA	141 (38-120)	141 (38-120)	( )	All	J detects (L)
			FFF	( )	133 (39-128)	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 1, 2011
LDC Report Date:	March 7, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_PZ-144_020111 was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

LDC #: 24989L3b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12139-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 1 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-144_020111	11	MB 280-51797/1-A	21		31	
2	PZ-144_020111_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: April 1, 2011

Matrix: Water

Parameters: Dissolved Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01
PZ-144_020111_01MS
PZ-144_020111_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020 for Dissolved Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Calcium Iron	0.0429 mg/L 0.0541 mg/L	EB_PZ-144_020111
PB (prep blank)	Boron Magnesium	0.00189 mg/L 0.0139 mg/L	PZ-144_020111_01

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
EB_PZ-144_020111	Calcium	0.042 mg/L	0.042U mg/L

Sample EB_PZ-144_020111 was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-144_020111	2/1/11	Calcium Magnesium Silver Thallium	0.042 mg/L 0.023 mg/L 0.000017 mg/L 0.000022 mg/L	PZ-144_020111_01

Sample FB_011411_19F (from SDG 280-11638-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-144_020111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12139-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dissolved Metals - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Dissolved Metals - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12139-1	EB_PZ-144_020111	Calcium	0.042U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Dissolved Metals - Field Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

LDC #: 24989L4 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/2/11
SDG #: 280-12139-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer:
METHOD: Metals (EPA SW 846 Method 6010B/6020~~/7000~~) Dissolved

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/1/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=1 ; FB=FB_011411_19F (CSDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-144_020111	11		21		31	
2	PZ-144_020111_01	12		22		32	
~~3~~	~~EB_PZ-144_020111F~~	13		23		33	
~~4~~	~~PZ-144_020111_01F~~	14		24		34	
5	PZ-144_020111_01MS	15		25		35	
6	PZ-144_020111_01MSD	16		26		36	
~~7~~	~~PZ-144_020111_01FMS~~	17		27		37	
~~8~~	~~PZ-144_020111_01FMSD~~	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1, 2		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
12:56		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,

LDC #: 24989L4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: CC
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1									
Ca		0.0429		0.2145	0.042									
Fe		0.0541		0.2705										

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 2

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qualifiers									
B		0.00189		0.00945										
Mg		0.0139		0.0695										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24989L4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 2

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

Sampling date: 2/1/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2

Analyte	Blank ID	Sample Identification										
	1	Action Level	No Qualifiers									
Ca	0.042	0.21										
Mg	0.023	0.115										
Ag	0.000017	0.000085										
Tl	0.000022	0.00011										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01
PZ-144_020111_01A
RS-07_020111_01
RS-07_020111_01A
RD-03_020111_01
RD-48C_020111_01
WS-04A_020111_01
RD-43B_020111_01
RD-32_020111_01
HAR-01_020111_01
PZ-144_020111_01AMS
PZ-144_020111_01AMSD
PZ-144_020111_01ADUP
RS-07_020111_01MS
RS-07_020111_01MSD
RS-07_020111_01AMS
RS-07_020111_01AMSD
RS-07_020111_01ADUP
RD-43B_020111_01MS
RD-43B_020111_01MSD
RD-43B_020111_01DUP

Introduction

This data review covers 22 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphate, and Sulfate, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, and EPA Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
EB_PZ-144_020111	Hexavalent chromium Dissolved hexavalent chromium	55 hours	24 hours	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	P
PZ-144_020111_01AMS PZ-144_020111_01AMSD	Hexavalent chromium	55 hours	24 hours	J (all detects) R (all non-detects)	P
PZ-144_020111_01ADUP	Dissolved hexavalent chromium	55 hours	24 hours	J (all detects) R (all non-detects)	P
PZ-144_020111_01A	Hexavalent chromium Dissolved hexavalent chromium	48.5 hours	24 hours	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	P
RS-07_020111_01A	pH	52.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-03_020111_01	pH	53.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-48C_020111_01	pH	51 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-43B_020111_01	pH	48.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
HAR-01_020111_01	pH	50.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
EB_PZ-144_020111	Nitrate Nitrite Orthophosphate as P	55 hours	48 hours	J (all detects) UJ (all non-detects)	P
PZ-144_020111_01	Nitrate Nitrite Orthophosphate as P	54.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
RS-07_020111_01A	Nitrate	54 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-03_020111_01	Nitrate	56 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-48C_020111_01	Nitrate	52.75 hours	48 hours	J (all detects) UJ (all non-detects)	P

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
HAR-01_020111_01	Nitrate	52.5 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Perchlorate	0.630 ug/L	RS-07_020111_01A RD-03_020111_01 RD-48C_020111_01 WS-04A_020111_01 RD-43B_020111_01 RD-32_020111_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_PZ-144_020111 was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-144_020111	2/1/11	Orthophosphate as P	0.87 mg/L	PZ-144_020111_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Sulfate	0.37 mg/L	PZ-144_020111_01
FB_011411_19	1/14/11	Ammonia as N	0.091 mg/L	RS-07_020111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-07_020111_01	Ammonia as N	0.093 mg/L	0.093U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12139-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01A	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	P	Technical holding times (H)
280-12139-1	RS-07_020111_01A RD-03_020111_01 RD-48C_020111_01 RD-43B_020111_01 HAR-01_020111_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01	Nitrate Nitrite Orthophosphate as P	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-12139-1	RS-07_020111_01A RD-03_020111_01 RD-48C_020111_01 HAR-01_020111_01	Nitrate	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01 PZ-144_020111_01A RS-07_020111_01 RS-07_020111_01A RD-03_020111_01 RD-48C_020111_01 WS-04A_020111_01 RD-43B_020111_01 RD-32_020111_01 HAR-01_020111_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12139-1	RS-07_020111_01	Ammonia as N	0.093U mg/L	A	F

LDC #: 24989L6
SDG #: 280-12139-1
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/3/11
Page: 1 of 1
Reviewer: CR
2nd Reviewer:

METHOD: (Analyte) Ammonia-N (EPA Method 350.1), Bromide, Chloride, Fluoride, Nitrate-N, Nitrite-N, Orthophosphate-PO_4, Sulfate (EPA Method 300.0), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B),

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 2/1/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	SW	EB=1 ; FB= FB-011411-19 (SDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	EB_PZ-144_020111	11	HAR-01_020111_01	21	RD-43B_020111_01MSD	31	
2	PZ-144_020111_01	12	PZ-144_020111_01AMS	22	RD-43B_020111_01DUP	32	
3	PZ-144_020111_01A	13	PZ-144_020111_01AMSD	23		33	
4	RS-07_020111_01	14	PZ-144_020111_01ADUP	24		34	
5	RS-07_020111_01A	15	RS-07_020111_01MS	25		35	
6	RD-03_020111_01	16	RS-07_020111_01MSD	26		36	
7	RD-48C_020111_01	17	RS-07_020111_01AMS	27		37	
8	WS-04A_020111_01	18	RS-07_020111_01AMSD	28		38	
9	RD-43B_020111_01	19	RS-07_020111_01ADUP	29		39	
10	RD-32_020111_01	20	RD-43B_020111_01MS	30		40	

Notes:

LDC #: 24989L6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: CR
2nd reviewer: [illegible]

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:		7196A	9040B	300.0			
Parameters:		Cr6+ (Total & Dissolved)	pH	NO_3, NO_2, oPO_4			
Technical holding time:		24hrs	48hrs	48hrs			
Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
1 (Total & Diss Cr6)	2/1/11 07:45 ~~14:25~~	2/3/11 14:25 (55hrs)					J/R/P (H)
12, 13 (Total Cr)	↓	↓	↓				↓
14 (Dissolved Cr)	↓	↓	↓				
3 (Total & Diss Cr)	2/1/11 14:10	↓	(48.5hrs)				
5	2/1/11 10:00		2/3/11 14:33 (52.5hrs)				J/UJ/P
6	09:18		14:36 (53.25hrs)				
7	11:44		14:39 (51hrs)				
9	14:10		14:42 (48.5hrs)				
11	↓ 12:14		14:44 (50.5hrs)				↓
1 (NO_3, NO_2, oPO_4)	2/1/11 07:45			2/3/11 14:48 (55hrs)			J/UJ/P
2 ↓	08:55			15:05 (54.25hrs)			
5 (NO_3 only)	10:00 ~~15:57~~			15:57 (54hrs)			
6	09:18			16:15 (56hrs)			
7	11:44			16:32 (52.75hrs)			
11 ↓	↓ 12:14			16:49 (52.5hrs)			↓

LDC #: 24989L6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: QV
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: ug/L **Associated Samples: 5-10**

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		No Qualifiers									
ClO4	0.630		3.15										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24989L6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: of
Reviewer:
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: SO4=2, NH3=4

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		~~No Qualifiers~~ 4							
Sulfate	0.37	1.85								
Ammonia as N	0.091	0.455	0.093							

Sampling date: 2/1/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2

Analyte	Blank ID	Action Limit	Sample Identification							
	1		No Qualifiers (>5x)							
Orthophosphate as Phosphate	0.87	4.35								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24989L6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4 (Diss Cr^{6+}) (BC)
2		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (BC)
3		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4 (Diss Cr^{6+})
4		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
5		(pH) TDS Cl (F NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
6, 7, 8, 9, 11		(pH) TDS Cl (F NO_3) NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO_4)
8		pH TDS Cl (F NO_3) NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO_4)
10		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC: 12		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4
13		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4
14		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Diss Cr^{6+})
15		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
16		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
17		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
18		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
19		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
20		pH TDS Cl (F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
21		pH TDS Cl (F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
22		pH TDS Cl (F) (NO_3) NO_2 (SO_4) PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Gasoline Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-1

Sample Identification

RD-32_020111_01
RD-32_020111_01MS
RD-32_020111_01MSD
TB_RD-32_020111

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Gasoline Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No gasoline range organic contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-52242/5	2/7/11	Gasoline Range Organics (C6-C12)	7.16 ug/L	All samples in SDG 280-12139-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-32_020111_01	Gasoline Range Organics (C6-C12)	7.5 ug/L	100U ug/L
TB_RD-32_020111	Gasoline Range Organics (C6-C12)	5.7 ug/L	100U ug/L

Sample TB_RD-32_020111 was identified as a trip blank. No gasoline range organic contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-32_020111	2/1/11	Gasoline Range Organics (C6-C12)	5.7 ug/L	RD-32_020111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-32_020111_01	Gasoline Range Organics (C6-C12)	7.5 ug/L	100U ug/L

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1	RD-32_020111_01 TB_RD-32_020111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12139-1	RD-32_020111_01	Gasoline Range Organics (C6-C12)	100U ug/L	A	B
280-12139-1	TB_RD-32_020111	Gasoline Range Organics (C6-C12)	100U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12139-1	RD-32_020111_01	Gasoline Range Organics (C6-C12)	100U ug/L	A	T

LDC #: 24989L7 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12139-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVC
2nd Reviewer:

METHOD: GC TPH as Gasoline(EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW	TB = 4

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-32_020111_01	11	MB 280-52242/5	21		31	
2	RD-32_020111_01MS	12		22		32	
3	RD-32_020111_01MSD	13		23		33	
4	TB_RD-32_020111	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 34989 L7

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: DVG
2nd Reviewer: [illegible]

METHOD: / GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: NA **Blank analysis date:** 2/07/11 **Associated samples:** All Code: B

Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	MB 280-52242/5		1	4				
$C_6 - C_{12}$	7.16		7.5 / 100 U	5.7 / 100 U				

Blank extraction date: _____ **Blank analysis date:** _____ **Associated samples:** _____

Conc. units: _____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 24989L7

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 2/01/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 1 only : T

Compound	Blank ID	Blank ID	Sample Identification							
	4		1							
C_6-C_{12}	5.7		7.5/100 U							
CRQL										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 1, 2011
LDC Report Date:	March 7, 2011
Matrix:	Water
Parameters:	Diesel Range Organics
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01
RS-07_020111_01
RD-03_020111_01
RD-48C_020111_01
WS-04A_020111_01
RD-43B_020111_01
HAR-01_020111_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_PZ-144_020111 was identified as an equipment blank. No diesel range organic contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01 RS-07_020111_01 RD-03_020111_01 RD-48C_020111_01 WS-04A_020111_01 RD-43B_020111_01 HAR-01_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

LDC #: 24989L8 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12139-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01 /11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS /D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	EB = 1 FB = FB-01 1411-19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-144_020111	11	MB 280-51798/1-A	21		31	
2	PZ-144_020111_01	12		22		32	
3	RS-07_020111_01	13		23		33	
4	RD-03_020111_01	14		24		34	
5	RD-48C_020111_01	15		25		35	
6	WS-04A_020111_01	16		26		36	
7	RD-43B_020111_01	17		27		37	
8	HAR-01_020111_01	18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-1/A1B030461

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01
RS-07_020111_01
RD-03_020111_01
RD-48C_020111_01
WS-04A_020111_01
RD-43B_020111_01
HAR-01_020111_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Samples EB_PZ-144_020111 and EB_SH-04_020311 (from SDG 280-12215-1) were identified as equipment blanks. No formaldehyde was found in these blanks.

Sample FB_1011411_19 (from SDG 11638-1) was identified as a field blank. No formaldehyde was found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_1011411_19	1/14/11	Formaldehyde	21 ug/L	PZ-144_020111_01 RS-07_020111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1/A1B030461	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-12139-1/A1B030461

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1/A1B030461	EB_PZ-144_020111 PZ-144_020111_01 RS-07_020111_01 RD-03_020111_01 RD-48C_020111_01 WS-04A_020111_01 RD-43B_020111_01 HAR-01_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-12139-1/A1B030461

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-12139-1/A1B030461

No Sample Data Qualified in this SDG

LDC #: 24989L71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12139/A1B030461 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVC
2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW/FB	EB = 1 FB = FB_011411_19 (from 280_11638-1) *EB = EB_SH-04_02031 (from 280_12215)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
*ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	EB_PZ-144_020111	11	10 34225-MB	21		31	
2	PZ-144_020111_01	12		22		32	
3	RS-07_020111_01	13		23		33	
4	RD-03_020111_01	14		24		34	
5	RD-48C_020111_01	15		25		35	
6	WS-04A_020111_01	16		26		36	
7	RD-43B_020111_01	17		27		37	
8	HAR-01_020111_01	18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24989 L71

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MV
2nd Reviewer: [signature]

METHOD: __ GC / HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 1, 2, 3 (MD)

Compound	Blank ID	Blank ID	Sample Identification							
from 280-11638-1)	FB_011411_19									
Formaldehyde	21									
CRQL										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-1

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01
RS-07_020111_01
RD-03_020111_01
RD-48C_020111_01
WS-04A_020111_01
RD-43B_020111_01
HAR-01_020111_01
RD-03_020111_01MS
RD-03_020111_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0048/DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

Sample EB_PZ-144_020111 was identified as an equipment blank. No hydrazine contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-144_020111	2/1/11	Hydrazine	0.91 mg/L	PZ-144_020111_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-12139-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-1	EB_PZ-144_020111 PZ-144_020111_01 RS-07_020111_01 RD-03_020111_01 RD-48C_020111_01 WS-04A_020111_01 RD-43B_020111_01 HAR-01_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-12139-1

No Sample Data Qualified in this SDG

LDC #: 24989L76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/2/11
SDG #: 280-12139-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CC
DV-WC-0048 / DV-WC-0077 2nd Reviewer: 1

METHOD: ~~HPLC~~ Hydrazines (Method ~~DVWC-0077~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/1/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
~~IVa.~~	~~Surrogate recovery~~	~~N~~	~~Not required.~~
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW	EB=1 ; FB= FB-011411-19 (SDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: WATER

1	EB_PZ-144_020111	11	PBW	21		31	
2	PZ-144_020111_01	12		22		32	
3	RS-07_020111_01	13		23		33	
4	RD-03_020111_01	14		24		34	
5	RD-48C_020111_01	15		25		35	
6	WS-04A_020111_01	16		26		36	
7	RD-43B_020111_01	17		27		37	
8	HAR-01_020111_01	18		28		38	
9	RD-03_020111_01MS	19		29		39	
10	RD-03_020111_01MSD	20		30		40	

Notes: _____

LDC #: 24989 L 76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CS
2nd reviewer: KW

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1,2		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
3-5,7,8		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
6		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
9,10		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments:

LDC #: 24989L76

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer: L

METHOD: Inorganics, EPA Method See Cover

(Y) N N/A Were field blanks identified in this SDG?

(Y) N N/A Were target analytes detected in the field blanks? Reason: F

Blank units: mg/L **Associated sample units: mg/L**

Sampling date: 2/1/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2

Analyte	Blank ID	Action Limit	Sample Identification							
	1		No Qualifiers							
Hydrazine	0.91	4.55								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 1, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12167-1/H1B040469

Sample Identification

EB_PZ-144_020111
PZ-144_020111_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Sample EB_PZ-144_020111 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11646-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD	0.70 pg/L	PZ-144_020111_01
		1,2,3,4,7,8-HxCDD	0.42 pg/L	
		1,2,3,7,8,9-HxCDD	0.48 pg/L	
		1,2,3,4,6,7,8-HpCDD	1.3 pg/L	
		OCDD	2.2 pg/L	
		1,2,3,7,8-PeCDF	0.48 pg/L	
		2,3,4,7,8-PeCDF	0.40 pg/L	
		1,2,3,4,7,8-HxCDF	0.50 pg/L	
		2,3,4,6,7,8-HxCDF	0.52 pg/L	
		1,2,3,7,8,9-HxCDF	0.78 pg/L	
		1,2,3,4,6,7,8-HpCDF	0.78 pg/L	
		1,2,3,4,7,8,9-HpCDF	0.74 pg/L	
		OCDF	2.0 pg/L	

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12167-1/H1B040469	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-12167-1/H1B040469

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12167-1/H1B040469	EB_PZ-144_020111 PZ-144_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-12167-1/H1B040469

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-12167-1/H1B040469

No Sample Data Qualified in this SDG

LDC #: 24989M21 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/6 4/11

SDG #: 280-12167-1/H1B040469 Level V Page: 1 of 1

Laboratory: Test America Inc. Reviewer: JVG

2nd Reviewer: [signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	client Spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW	EB = 1 FB = FB_011411_19 (from 280-11648-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	EB_PZ-144_020111	11	lo 35255-MB	21		31	
2	PZ-144_020111_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 24989 M21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: VC
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** pg/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: ✓ (ND)

Compound	Blank ID	Sample Identification								
(from 280-11648-1)	FB_011411_19									
B	0.70									
C	0.42									
E	0.48									
F	1.3									
G	2.2									
I	0.48									
CRQL J	0.40									

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
✓	✓									
K	0.50									
M	0.52									
N	0.78									
O	0.78									
P	0.74									
Q	2.0									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 31, 2011
LDC Report Date:	March 4, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12183-1/H1B050410

Sample Identification

EB_PZ-158_013111
PZ-158_013111_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Sample EB_PZ-158_013111 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11646-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	0.70 pg/L 0.42 pg/L 0.48 pg/L 1.3 pg/L 2.2 pg/L 0.48 pg/L 0.40 pg/L 0.50 pg/L 0.52 pg/L 0.78 pg/L 0.78 pg/L 0.74 pg/L 2.0 pg/L	PZ-158_013111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12183-1/H1B050410	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-12183-1/H1B050410

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12183-1/H1B050410	EB_PZ-158_013111 PZ-158_013111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-12183-1/H1B050410

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-12183-1/H1B050410

No Sample Data Qualified in this SDG

LDC #: 24989N21 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/6/11
SDG #: 280-12183-1/H1B050410 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: JV6
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	SW B	EB = 1 FB = FB_011411_19 (from 280-11948-1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	EB_PZ-158_013111	11	10 38080-MB	21		31	
2	PZ-158_013111_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 24989 N2

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DVG
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** pg/L
Sampling date: 1/14/11
Field blank type: (circle one) (Field Blank) / Rinsate / Other: _____ Associated Samples: 2 (ND)

Compound	Blank ID	Sample Identification								
(from 280-11648-1)	FB_011411_19									
B	0.70									
C	0.42									
E	0.48									
F	1.3									
G	2.2									
I	0.48									
CRQL J	0.40									

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
K	0.50									
M	0.52									
N	0.78									
O	0.78									
P	0.74									
Q	2.0									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12215-1

Sample Identification

EB_PZ-141_020311
PZ-141_020311_01
TB_PZ-141_020311
RS-30_020311_01
TB_RS-30_020311
RS-31_020311_01
RS-32_020311_01
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36
TB_PZ-139_020311
PZ-141_020311_01MS
PZ-141_020311_01MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-52739/5	2/10/11	Methylene chloride	0.341 ug/L	All samples in SDG 280-12215-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
TB_PZ-141_020311	Methylene chloride	0.45 ug/L	1.0U ug/L
TB_RS-30_020311	Methylene chloride	0.78 ug/L	5.0U ug/L

Samples TB_PZ-141_020311, TB_RS-30_020311, and TB_PZ-139_020311 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_PZ-141_020311	2/3/11	Methylene chloride	0.45 ug/L	EB_PZ-141_020311 PZ-141_020311_01
TB_RS-30_020311	2/3/11	Methylene chloride	0.78 ug/L	RS-30_020311_01 RS-31_020311_01 RS-32_020311_01

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No volatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-139_020311	2/3/11	Chloroform	5.4 ug/L	PZ-141_020311_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform Styrene	2.5 ug/L 0.40 ug/L	PZ-141_020311_01 PZ-139_020311_01 PZ-139_020311_36

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
PZ-141_020311_01MS/MSD (PZ-141_020311_01)	2-Chloroethylvinyl ether	0 (17-150)	0 (17-150)	-	J (all detects) R (all non-detects)	A
PZ-141_020311_01MS/MSD (PZ-141_020311_01)	Methyl-tert-butyl ether	54 (58-120)	56 (58-120)	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicate samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-139_020311_01	PZ-139_020311_36			
1,1-Dichloroethene	0.71	0.73	3 (≤35)	-	-
cis-1,2-Dichloroethene	11	11	0 (≤35)	-	-
trans-1,2-Dichloroethene	0.54	0.56	4 (≤35)	-	-
Trichloroethene	190	200	5 (≤35)	-	-

Samples PZ-141_020311_01 and PZ-141_020311_03 (from SDG IUB0547) were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-141_020311_01	PZ-141_020311_03			
Chloroform	1.0U	0.39	88 (≤35)	NQ	-
cis-1,2-Dichloroethene	18	1.0U	179 (≤35)	NQ	-
trans-1,2-Dichloroethene	0.16	1.0U	145 (≤35)	NQ	-
Trichloroethene	59	1.0U	193 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1	PZ-141_020311_01	2-Chloroethylvinyl ether	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-12215-1	PZ-141_020311_01	Methyl-tert-butyl ether	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-12215-1	EB_PZ-141_020311 PZ-141_020311_01 TB_PZ-141_020311 RS-30_020311_01 TB_RS-30_020311 RS-31_020311_01 RS-32_020311_01 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36 TB_PZ-139_020311	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12215-1	TB_PZ-141_020311	Methylene chloride	1.0U ug/L	A	B
280-12215-1	TB_RS-30_020311	Methylene chloride	5.0U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

LDC #: 24989O1a **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12215-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	D = 9, 10 S = 2 + PZ-141_020311_03 (IMB0547 *)
XVII.	Field blanks	SW	EB = *1, 8 TB = 3, 5, 11 FB = FB-011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

− 1	EB_PZ-141_020311	11	TB_PZ-139_020311	21	MB 280-52739/81		
+ 1	PZ-141_020311_01	12	PZ-141_020311_01MS	22	MB 280-52223/5	32	
+ 1	TB_PZ-141_020311	13	PZ-141_020311_01MSD	23		33	
− 1	RS-30_020311_01	14		24		34	
+ 1	TB_RS-30_020311	15		25		35	
− 1	RS-31_020311_01	16		26		36	
+ 1	RS-32_020311_01	17		27		37	
+ 1	EB_PZ-139_020311	18		28		38	
IX,3X + 1	PZ-139_020311_01 D	19		29		39	
X,5X +	PZ-139_020311_36 D	20		30		40	

Std = 1-3, 8-11
VOCs = 4-7

LDC #: 24989019

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 2/10/11
Conc. units: ug/L
Associated Samples: All
Code: B

Compound	Blank ID	Sample Identification								
MB	280-52739/5		3	5						
Methylene chloride E	0.341		0.45 /5.0U	0.78 /5.0U						
Acetone										
CRQL										

Blank analysis date:
Conc. units:
Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24989 01a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: NG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 1, 2 (ND)

Compound	Blank ID 3	Blank ID	Sample Identification							
Sampling Date	2/03/11									
Methylene chloride E	0.45									
Acetone										
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 4, 6, 7 (ND)

Compound	Blank ID 5	Blank ID	Sample Identification							
Sampling Date	2/03/11									
Methylene chloride E	0.78									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24989 O1A

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JYG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 2 (ND)

Compound	Blank ID 8	Blank ID	Sample Identification							
Sampling Date	2/03/11									
~~Methylene chloride~~ K	5.4									
Acetone										
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 2, 9, 10 (ND)

(from 280-11638-1) Compound	FB-011411-19 Blank ID	Blank ID	Sample Identification							
Sampling Date	1/14/11									
~~Methylene chloride~~ K	2.5									
~~Acetone~~ FF	0.40									
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24989019

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: e

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	12/13	II	0 (17-150)	0 (17-150)	( )	2	J/R/A (Q)
		LL	54 (58-120)	56 (58-120)	( )	↓	J/UJ/A
		S	( )	26 (78-122)	( )	↓	* No qual
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		* Parent conc >4X spike amt
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

LDC#:24989O1a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JB
2nd Reviewer: [illegible]

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	9	10	RPD	
1,1-Dichloroethene	0.71	0.73	3	
cis-1,2-Dichloroethene	11	11	0	
trans-1,2-Dichloroethene	0.54	0.56	4	
Trichloroethene	190	200	5	

LDC#:24989O1a

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: JW
2nd Reviewer: [illegible]

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	PZ-141_020311_01	PZ-141_020311_03		
Chloroform	1.0U	0.39	88	NQ
cis-1,2-Dichloroethene	18	1.0U	179	NQ
trans-1,2-Dichloroethene	0.16	1.0U	145	NQ
Trichloroethene	59	1.0U	193	NQ

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12215-1

Sample Identification

EB_PZ-141_020311
PZ-141_020311_01
TB_PZ-141_020311
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36
TB_PZ-139_020311

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_PZ-141_020311 and TB_PZ-139_020311 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No 1,4-Dioxane was found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicate samples. No 1,4-Dioxane was detected in any of the samples.

Samples PZ-141_020311_01 and PZ-141_020311_03 (from SDG IUB0547) were identified as split samples. No 1,4-Dioxane was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1	EB_PZ-141_020311 PZ-141_020311_01 TB_PZ-141_020311 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36 TB_PZ-139_020311	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

LDC #: 24989O1b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12215-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: OVG
2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	M	Client Spec
VIII.	Laboratory control samples	A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	D = 5, 6 S = 2 + PZ-14L020311_03 (#LB052 (from 280-11638-1))
XVII.	Field blanks	ND	EB = 1, 4 TB = 3, 7 FB = FB_011411_19

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	EB_PZ-141_020311	11	MB 280-53117/16	21		31	
2	PZ-141_020311_01	12	MB 280-53277/11	22		32	
3	TB_PZ-141_020311	13		23		33	
4	EB_PZ-139_020311	14		24		34	
5	PZ-139_020311_01 D	15		25		35	
6	PZ-139_020311_36 D	16		26		36	
7	TB_PZ-139_020311	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 3, 2011
LDC Report Date:	March 7, 2011
Matrix:	Water
Parameters:	Polynuclear Aromatic Hydrocarbons
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12215-1

Sample Identification

EB_PZ-141_020311
PZ-141_020311_01
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-52141/1-A	2/7/11	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.00934 ug/L 0.0274 ug/L 0.0941 ug/L 0.123 ug/L	All samples in SDG 280-12215-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
EB_PZ-141_020311	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.0098 ug/L 0.023 ug/L 0.10 ug/L 0.11 ug/L	9.6U ug/L 9.6U ug/L 9.6U ug/L 9.6U ug/L
PZ-141_020311_01	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.017 ug/L 0.17 ug/L 0.26 ug/L 0.15 ug/L	9.8U ug/L 9.8U ug/L 9.8U ug/L 9.8U ug/L

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
EB_PZ-139_020311	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.013 ug/L 0.059 ug/L 0.13 ug/L 0.14 ug/L	11U ug/L 11U ug/L 11U ug/L 11U ug/L
PZ-139_020311_01	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.011 ug/L 0.087 ug/L 0.36 ug/L 0.15 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L
PZ-139_020311_36	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.0097 ug/L 0.079 ug/L 0.36 ug/L 0.21 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No polynuclear aromatic hydrocarbon contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-141_020311	2/3/11	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.0098 ug/L 0.023 ug/L 0.10 ug/L 0.11 ug/L	PZ-141_020311_01
EB_PZ-139_020311	2/3/11	Naphthalene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.013 ug/L 0.16 ug/L 0.059 ug/L 0.13 ug/L 0.14 ug/L	PZ-139_020311_01 PZ-139_020311_36

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Benzo(a)anthracene Chrysene Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.0054 ug/L 0.0037 ug/L 0.0073 ug/L 0.14 ug/L 0.060 ug/L 0.094 ug/L 0.51 ug/L	PZ-141_020311_01 PZ-139_020311_01 PZ-139_020311_36

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-141_020311_01	Naphthalene	0.017 ug/L	9.8U ug/L
	Di-n-butylphthalate	0.17 ug/L	9.8U ug/L
	Diethylphthalate	0.26 ug/L	9.8U ug/L
	Di-n-octylphthalate	0.15 ug/	9.8U ug/L
	Bis(2-ethylhexyl)phthalate	0.26 ug/L	9.8U ug/L
	Butylbenzylphthalate	0.053 ug/L	9.8U ug/L
PZ-139_020311_01	Naphthalene	0.011 ug/L	10U ug/L
	Bis(2-ethylhexyl)phthalate	0.22 ug/L	10U ug/L
	Di-n-butylphthalate	0.087 ug/L	10U ug/L
	Diethylphthalate	0.36 ug/L	10U ug/L
	Di-n-octylphthalate	0.15 ug/L	10U ug/L
	Butylbenzylphthalate	0.033 ug/L	10U ug/L
PZ-139_020311_36	Naphthalene	0.0097 ug/L	10U ug/L
	Bis(2-ethylhexyl)phthalate	0.25 ug/L	10U ug/L
	Di-n-butylphthalate	0.079 ug/L	10U ug/L
	Diethylphthalate	0.36 ug/L	10U ug/L
	Di-n-octylphthalate	0.21 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicate samples. No polynuclear aromatic hydrocarbons were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-139_020311_01	PZ-139_020311_36			
Phenanthrene	0.010	10U	200 (≤35)	NQ	-
2-Methylnapthalene	0.0062	10U	200 (≤35)	NQ	-
Naphthalene	0.011	0.0097	13 (≤35)	-	-
Bis(2-ethylhexyl)phthalate	0.22	0.25	13 (≤35)	-	-
Butylbenzyl phthalate	0.033	10U	199 (≤35)	NQ	-

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-139_020311_01	PZ-139_020311_36			
Di-n-butyl phthalate	0.087	0.079	10 (≤35)	-	-
Diethyl phthalate	0.36	0.36	0 (≤35)	-	-
Di-n-octyl phthalate	0.15	0.21	33 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualifie

Samples PZ-141_020311_01 and PZ-141_020311_03 (from SDG IUB0547) were identified as split samples. No polynuclear aromatic hydrocarbons were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-141_020311_01	PZ-141_020311_03			
2-Methylnapthalene	0.0051	0.47U	196 (≤35)	NQ	-
Naphthalene	0.017	0.47U	186 (≤35)	NQ	-
Bis(2-ethylhexyl)phthalate	0.26	0.47U	58 (≤35)	NQ	-
Butylbenzyl phthalate	0.053	0.47U	159 (≤35)	NQ	-
Di-n-butyl phthalate	0.17	0.47U	94 (≤35)	NQ	-
Diethyl phthalate	0.26	0.47U	58 (≤35)	NQ	-
Di-n-octyl phthalate	0.15	0.47U	103 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1	EB_PZ-141_020311 PZ-141_020311_01 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12215-1	EB_PZ-141_020311	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	9.6U ug/L 9.6U ug/L 9.6U ug/L 9.6U ug/L	A	B
280-12215-1	PZ-141_020311_01	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	9.8U ug/L 9.8U ug/L 9.8U ug/L 9.8U ug/L	A	B
280-12215-1	EB_PZ-139_020311	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	11U ug/L 11U ug/L 11U ug/L 11U ug/L	A	B
280-12215-1	PZ-139_020311_01	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B
280-12215-1	PZ-139_020311_36	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-12215-1	PZ-141_020311_01	Naphthalene Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate Bis(2-ethylhexyl)phthalate Butylbenzylphthalate	9.8U ug/L 9.8U ug/L 9.8U ug/L 9.8U ug/L 9.8U ug/L 9.8U ug/L	A	F
280-12215-1	PZ-139_020311_01	Naphthalene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate Butylbenzylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	F
280-12215-1	PZ-139_020311_36	Naphthalene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	F

LDC #: 24989O2c

SDG #: 280-12215-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/03/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer:

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	D = 4, 5 S = 2 + PZ-141_020311_03 (IUB054)
XVII.	Field blanks	SW	EB = 1, 3 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-141_020311	11	MB 280-52141/1-A	21		31	
2	PZ-141_020311_01	12		22		32	
3	EB_PZ-139_020311	13		23		33	
4	PZ-139_020311_01 D	14		24		34	
5	PZ-139_020311_36 D	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 29989 02C

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 2/07/11 **Blank analysis date:** 2/09/11
Conc. units: ug/L Associated Samples: All Code: B

Compound	Blank ID	Sample Identification							
MB	280-52141	1-A	1	2	3	4	5		
S	0.00934		0.0098 / 9.6U	0.017 / 9.8U	0.013 / 11U	0.011 / 10U	0.0097 / 10		
XX	0.0274		0.023 /	0.17 /	0.059 /	0.087 /	0.079 /		
LL	0.0941		0.10 /	0.26 /	0.13 /	0.36 /	0.36 /		
FFF	0.123		0.11 /	0.15 /	0.14 /	0.15 /	0.21 /		

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 24989 02C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 2
Reviewer: SVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: 2/03/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2 Code: F

Compound	Blank ID	Sample Identification							
	1	2							
~~Diethylphthalate~~ S	0.0098	0.017 / 98U							
~~Di-n-butylphthalate~~ XX	0.023	0.17 /							
~~Bis(2-ethylhexyl)phthalate~~ LL	0.10	0.26 /							
FFF	0.11	0.15 /							
CRQL									

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: 2/03/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 4, 5 Code: F

Compound	Blank ID	Sample Identification							
	3	4	5						
~~Diethylphthalate~~ S	0.013	0.011 / 10U	0.0097 / 10U						
~~Di-n-butylphthalate~~ EEE	0.16	0.22 /	0.25 /						
~~Bis(2-ethylhexyl)phthalate~~ XX	0.059	0.087 /	0.079 /						
LL	0.13	0.36 /	0.36 /						
FFF	0.14	0.15 /	0.21 /						
CRQL									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 24989F2C
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVL
2nd Reviewer: Q

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 1/19/11
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples: 2 4 5 Code: F

Compound	Blank ID	Sample Identification								
(from 280-11678-1)	FB-011411_19	2	4	5						
CCC	0.0054									
DDD	0.0037									
S	0.0073	0.017/984	0.011/10U	0.0097/10U						
EEE	0.14	0.26 /	0.22 /	0.25 /						
AAA	0.060	0.053/	0.033/							
XX	0.094	0.17 /	0.087 /	0.079/10U						
FFF	0.51	0.15/	0.15/	0.21 /						

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples:_____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC#:24989O2c

VALIDATION FINDINGS WORKSHEET
Field ~~Split~~ Duplicate

Page: 1 of 1
Reviewer: JC
2nd Reviewer: JC

METHOD: GC MS PAHs (EPA SW 846 Method 8270C-SIM)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent Only)
	4	5		
Phenanthrene	0.010	10U	200	NQ
2-Methylnapthalene	0.0062	10U	200	NQ
Naphthalene	0.011	0.0097	13	
Bis(2-ethylhexyl)phthalate	0.22	0.25	13	
Butylbenzyl phthalate	0.033	10U	199	NQ
Di-n-butyl phthalate	0.087	0.079	10	
Diethyl phthalate	0.36	0.36	0	
Di-n-octyl phthalate	0.15	0.21	33	

V:\FIELD DUPLICATES\24989O2c.wpd

LDC#:24989O2c

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: JC
2nd Reviewer: JV

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270C-SIM)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	PZ-141_020311_01	PZ-141_020311_03		
2-Methylnaphthalene	0.0051	0.47U	196	NQ
Naphthalene	0.017	0.47U	186	NQ
Bis(2-ethylhexyl)phthalate	0.26	0.47U	58	NQ
Butyl benzyl phthalate	0.053	0.47U	159	NQ
Di-n-butyl phthalate	0.17	0.47U	94	NQ
Diethyl phthalate	0.26	0.47U	58	NQ
Di-n-octyl phthalate	0.15	0.47U	103	NQ

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12215-1

Sample Identification

EB_PZ-141_020311
PZ-141_020311_01
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No semivolatile contaminants were found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicate samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-139_020311_01	PZ-139_020311_36			
Di-n-octyl phthalate	21U	2.2	162 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Samples PZ-141_020311_01 and PZ-141_020311_03 (from SDG IUB0547) were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-141_020311_01	PZ-141_020311_03			
Di-n-octyl phthalate	2.2	19U	158 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1	EB_PZ-141_020311 PZ-141_020311_01 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

LDC #: 24989O2a **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12215-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / split	SW	D = 4, 5 S = 2 + PZ-141_020311_03
XVII.	Field blanks	ND	EB = 1, 3 FB = FB_011411_19 (IMB0547 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-141_020311	11	MB 280-52034/1-A	21		31	
2	PZ-141_020311_01	12		22		32	
3	EB_PZ-139_020311	13		23		33	
4	PZ-139_020311_01 D	14		24		34	
5	PZ-139_020311_36 D	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(Full list)

LDC#:24989O2a

VALIDATION FINDINGS WORKSHEET
Field ~~Split~~ Duplicate

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC MS SemivVolatiles (EPA SW 846 Method 8270C)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	4	5	RPD	(Parent Only)
Di-n-octyl phthalate	21U	2.2	162	NQ

V:\FIELD DUPLICATES\24989O2a.wpd

LDC#:24989O2a

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: JV6
2nd Reviewer: ✓

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270C)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	PZ-141_020311_01	PZ-141_020311_03		
Di-n-octyl phthalate	2.2	19U	158	NQ

V:\FIELD DUPLICATES\24989O2a(FS).wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12215-1

Sample Identification

EB_PZ-141_020311
PZ-141_020311_01
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No N-Nitrosodimethylamine was found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicate samples. No N-Nitrosodimethylamine was detected in any of the samples.

Samples PZ-141_020311_01 and PZ-141_020311_03 (from SDG IUB0547) were identified as split samples. No N-Nitrosodimethylamine was detected in any of the samples.

LDC #: 24989O2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12215-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates (split	ND	D = 4, 5 S = 2, PZ-141_020311_03 (IMBO
XVII.	Field blanks	ND	EB = 1, 3 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	EB_PZ-141_020311	11	MB 280-52217/1-A	21		31	
2	PZ-141_020311_01	12		22		32	
3	EB_PZ-139_020311	13		23		33	
4	PZ-139_020311_01 D	14		24		34	
5	PZ-139_020311_36 D	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12215-1

Sample Identification

EB_PZ-141_020311
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No polychlorinated biphenyl contaminants were found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicate samples. No polychlorinated biphenyls were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1	EB_PZ-141_020311 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

LDC #: 24989O3b

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/03/11

SDG #: 280-12215-1

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer:

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client Sker.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	ND	D = 3, 4
XV.	Field blanks	ND	EB = 1, 2 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	EB_PZ-141_020311	11	Mb 280-52355/1-A	21		31	
2	EB_PZ-139_020311	12		22		32	
3	PZ-139_020311_01	13		23		33	
4	PZ-139_020311_36	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 3, 2011
LDC Report Date:	April 1, 2011
Matrix:	Water
Parameters:	Dissolved Metals
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12215-1

Sample Identification

EB_PZ-141_020311
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36
PZ-139_020311_36MS
PZ-139_020311_36MSD
EB_PZ-141_020311MS
EB_PZ-141_020311MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020 for Dissolved Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese Zinc	0.000405 mg/L 0.00292 mg/L	All samples in SDG 280-12215-1

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-139_020311_01	Zinc	0.0045 mg/L	0.0045U mg/L
PZ-139_020311_36	Zinc	0.0048 mg/L	0.0048U mg/L

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-139_020311	2/3/11	Calcium Sodium Silver	0.045 mg/L 0.30 mg/L 0.000022 mg/L	PZ-139_020311_01 PZ-139_020311_36

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-141_020311	2/3/11	Silver	0.000015 mg/L	No associated samples in this SDG

Sample FB_011411_19F (from SDG 280-11638-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-139_020311_01 PZ-139_020311_36

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12215-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicates. No dissolved metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-139_020311_01	PZ-139_020311_36			
Boron	0.052	0.052	0 (≤35)	-	-
Arsenic	0.0010	0.0011	10 (≤35)	-	-
Barium	0.018	0.019	5 (≤35)	-	-
Cadmium	0.00013	0.00013	0 (≤35)	-	-
Calcium	67	70	4 (≤35)	-	-
Cobalt	0.00064	0.00061	5 (≤35)	-	-
Copper	0.00081	0.00093	14 (≤35)	-	-
Magnesium	31	33	6 (≤35)	-	-
Manganese	0.17	0.17	0 (≤35)	-	-
Molybdenum	0.0027	0.0043	46 (≤35)	NQ	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-139_020311_01	PZ-139_020311_36			
Nickel	0.0074	0.0076	3 (≤35)	-	-
Potassium	2.4	2.5	4 (≤35)	-	-
Sodium	120	120	0 (≤35)	-	-
Thallium	0.000024	0.000020U	18 (≤35)	-	-
Vanadium	0.0012	0.0013	8 (≤35)	-	-
Zinc	0.0045	0.0048	6 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Dissolved Metals - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12215-1	EB_PZ-141_020311 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Dissolved Metals - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12215-1	PZ-139_020311_01	Zinc	0.0045U mg/L	A	B
280-12215-1	PZ-139_020311_36	Zinc	0.0048U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Dissolved Metals - Field Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

LDC #: 24989O4 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/2/11

SDG #: 280-12215-1 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: CR

2nd Reviewer:

METHOD: Dissolved Metals (EPA SW 846 Method 6010B/6020/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/3/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	SW	(3,4)
XV	Field Blanks	SW	EB=1,2,~~5,6~~ FB=~~FB_011411_1QR~~ FB_011411_19F (SDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: WATER

1	EB_PZ-141_020311	11	(X 1) MS	21		31	
2	EB_PZ-139_020311	12	↓ MSD	22		32	
3	PZ-139_020311_01	13		23		33	
4	PZ-139_020311_36	14		24		34	
~~5~~	~~EB_PZ-141_020311F~~	15		25		35	
6	EB_PZ-139_020311F	16		26		36	
7	~~PZ-139_020311_01F~~	17		27		37	
~~8~~	~~PZ-139_020311_36F~~	18		28		38	
9	PZ-139_020311_36FMS	19		29		39	
10	PZ-139_020311_36FMSD	20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

DC #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-4		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
2(9,10)		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,
11,12		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,

LDC #: 24989O4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: CR
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: All

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	3	4								
Mn		0.000405		0.00203										
Zn		0.00292		0.0146	0.0045	0.0048								

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24989O4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CR
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 3, 4

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

Sampling date: 2/3/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 3, 4

Analyte	Blank ID	Sample Identification										
	2	Action Level	No Qualifiers									
Ca	0.045	0.225										
Na	0.30	1.5										
Ag	0.000022	0.00011										

Sampling date: 2/3/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: None

Analyte	Blank ID	Sample Identification										
	1	Action Level	No Qualifiers									
Ag	0.000015	0.000075										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 24989O4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: CT
2nd Reviewer: [illegible]

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	3	4		
Boron	0.052	0.052	0	
Arsenic	0.0010	0.0011	10	
Barium	0.018	0.019	5	
Cadmium	0.00013	0.00013	0	
Calcium	67	70	4	
Cobalt	0.00064	0.00061	5	
Copper	0.00081	0.00093	14	
Magnesium	31	33	6	
Manganese	0.17	0.17	0	
Molybdenum	0.0027	0.0043	46	NQ (<5xRL)
Nickel	0.0074	0.0076	3	
Potassium	2.4	2.5	4	
Sodium	120	120	0	
Thallium	0.000024	0.000020U	18	
Vanadium	0.0012	0.0013	8	
Zinc	0.0045	0.0048	6	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Gasoline Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12215-1

Sample Identification

RS-30_020311_01
TB_RS-30_020311
RS-31_020311_01
RS-32_020311_01
RS-30_020311_01MS
RS-30_020311_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Gasoline Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No gasoline range organic contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-52242/5	2/7/11	Gasoline Range Organics (C6-C12)	7.16 ug/L	TB_RS-30_020311
MB 280-52768/6	2/8/11	Gasoline Range Organics (C6-C12)	9.39 ug/L	RS-30_020311_01 RS-31_020311_01 RS-32_020311_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
TB_RS-30_020311	Gasoline Range Organics (C6-C12)	12 ug/L	100U ug/L
RS-31_020311_01	Gasoline Range Organics (C6-C12)	29 ug/L	100U ug/L
RS-32_020311_01	Gasoline Range Organics (C6-C12)	38 ug/L	100U ug/L

Sample TB_RS-30_020311 was identified as a trip blank. No gasoline range organic contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RS-30_020311	2/3/11	Gasoline Range Organics (C6-C12)	12 ug/L	RS-30_020311_01 RS-31_020311_01 RS-32_020311_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RS-31_020311_01	Gasoline Range Organics (C6-C12)	29 ug/L	100U ug/L
RS-32_020311_01	Gasoline Range Organics (C6-C12)	38 ug/L	100U ug/L

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RS-30_020311_01	a,a,a-Trifluorotoluene	131 (82-110)	All TCL compounds	J (all detects)	A

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1	RS-30_020311_01	All TCL compounds	J (all detects)	A	Surrogate spikes (%R) (S)
280-12215-1	RS-30_020311_01 TB_RS-30_020311 RS-31_020311_01 RS-32_020311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12215-1	TB_RS-30_020311	Gasoline Range Organics (C6-C12)	100U ug/L	A	B
280-12215-1	RS-31_020311_01	Gasoline Range Organics (C6-C12)	100U ug/L	A	B
280-12215-1	RS-32_020311_01	Gasoline Range Organics (C6-C12)	100U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12215-1	RS-31_020311_01	Gasoline Range Organics (C6-C12)	100U ug/L	A	T
280-12215-1	RS-32_020311_01	Gasoline Range Organics (C6-C12)	100U ug/L	A	T

LDC #: 24989O7 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12215-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VG
2nd Reviewer: 1

METHOD: GC TPH as Gasoline(EPA SW846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03 /11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	SW	
IVb.	Matrix spike/Matrix spike duplicates	SW	
IVc.	Laboratory control samples	A	LCS /D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW	TB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RS-30_020311_01	11	MB 280-52242/5	21		31	
2	TB_RS-30_020311	12	MB 280-52768/6	22		32	
3	RS-31_020311_01	13		23		33	
4	RS-32_020311_01	14		24		34	
5	~~EB_PZ-141_020311MS~~	15		25		35	
6	~~EB_PZ-141_020311MSD~~	16		26		36	
7	RS-30_020311_01MS	17		27		37	
8	RS-30_020311_01MSD	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 24948907

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: OVG
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: NA **Blank analysis date:** 2/07/11 **Associated samples:** 2 Code: B
Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	MB280-52249/5	2						
$C_6 - C_{12}$	7.16	12/100 u						

Blank extraction date: NA **Blank analysis date:** 2/08/11 **Associated samples:** 1, 3, 4 Code: B
Conc. units: ug/L

Compound	Blank ID	Sample Identification						
	MB280-52768/6	1	3	4				
$C_6 - C_{12}$	9.39	700	29/100 u	38/100 u				

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 2498907

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: A

METHOD: / GC __ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 2/03/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 1, 3, 4 Code: T

Compound	Blank ID	Blank ID	Sample Identification							
	7		1	3	4					
C_6-C_{12}	12		(700)	29/100U	38/100U					
CRQL										

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24989 02C

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: / GC __ HPLC
Are surrogates required by the method? Yes / or No____.
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Were surrogates spiked into all samples and blanks?
Y (N) N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ (Column)	Surrogate Compound	%R (Limits)	Qualifications
	1	NS	C	131 (82-110)	J dets/A (S)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	1-Chlorooctadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin		
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate		
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 2498967

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: VC
2nd Reviewer: e

METHOD: ___ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(S) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	7/8	C_6-C_{12}	21 (79-149)	77 (79-149)	( )	1	No qual (parent conc 74x spike amt)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 3, 2011
LDC Report Date:	March 7, 2011
Matrix:	Water
Parameters:	Diesel Range Organics
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12215-1

Sample Identification

EB_PZ-141_020311
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma DEQ Method for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No diesel range organic contaminants were found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicate samples. No diesel range organics were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1	EB_PZ-141_020311 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

LDC #: 24989O8 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12215-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS 1D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	D = 3, 4
X.	Field blanks	ND	EB = 1, 2, FB-011411-19 (280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-141_020311	11	MB 280-52200/1-A	21		31	
2	EB_PZ-139_020311	12		22		32	
3	PZ-139_020311_01	13		23		33	
4	PZ-139_020311_36	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 7, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12215-1

Sample Identification

EB_PZ-141_020311
PZ-141_020311_01
RD-75_020311_01
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36
PZ-139_020311_01A
PZ-139_020311_36A
PZ-141_020311_01MS
PZ-141_020311_01MSD
PZ-141_020311_01DUP
PZ-139_020311_36AMS
PZ-139_020311_36AMSD
PZ-139_020311_36ADUP

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphate, and Sulfate, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, and EPA Method 314.0 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
EB_PZ-141_020311	Hexavalent chromium Dissolved hexavalent chromium	29 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
EB_PZ-139_020311	Dissolved hexavalent chromium Hexavalent chromium	29.75 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P
PZ-139_020311_01A PZ-139_020311_36A PZ-139_020311_36AMS PZ-139_020311_36AMSD PZ-139_020311_36ADUP	Hexavalent chromium Dissolved hexavalent chromium	25 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as a equipment blanks. No contaminant concentrations were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-141_020311	2/3/11	Fluoride	0.067 mg/L	PZ-141_020311_01
EB_PZ-141_020311	2/3/11	Hexavalent chromium Dissolved hexavalent chromium	0.0043 mg/L 0.0043 mg/L	No associated samples in this SDG

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-139_020311	2/3/11	Fluoride Orthophosphate as P Sulfate	0.25 mg/L 0.68 mg/L 0.29 mg/L	PZ-139_020311_01 PZ-139_020311_36
EB_PZ-139_020311	2/3/11	Hexavalent chromium Dissolved hexavalent chromium	0.0043 mg/L 0.0043 mg/L	PZ-139_020311_01A PZ-139_020311_36A

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Sulfate	0.37 mg/L	PZ-141_020311_01 PZ-139_020311_01 PZ-139_020311_36

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-139_020311_01	Fluoride	1.1 mg/L	1.1U mg/L
PZ-139_020311_36	Fluoride	1.1 mg/L	1.1U mg/L
PZ-139_020311_01A	Dissolved hexavalent chromium	0.0043 mg/L	0.0043U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12215-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 and samples PZ-139_020311_01A and PZ-139_020311_36A were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ-139_020311_01	PZ-139_020311_36			
Fluoride	1.1	1.1	0 (≤35)	-	-
Chloride	30	30	0 (≤35)	-	-
Nitrite	0.32	0.35	9 (≤35)	-	-
Bromide	0.28	0.27	4 (≤35)	-	-
Nitrate	5.9	5.9	0 (≤35)	-	-
Sulfate	120	120	0 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ-139_020311_01A	PZ-139_020311_36A			
Dissolved hexavalent chromium	0.0043	0.0040U	7 (≤35)	-	-

Samples PZ-141_020311_01 and PZ-141_020311_03 (from SDG IUB0547) were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ-141_020311_01	PZ-141_020311_03			
Bromide	0.18	0.36	67 (≤35)	NQ	-
Fluoride	0.34	0.45	28 (≤35)	-	-
Chloride	70	78	11 (≤35)	-	-
Nitrate	1.0	0.32	103 (≤35)	NQ	-
Sulfate	310	320	3 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12215-1	EB_PZ-141_020311 EB_PZ-139_020311 PZ-139_020311_01A PZ-139_020311_36A	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-12215-1	EB_PZ-141_020311 PZ-141_020311_01 RD-75_020311_01 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36 PZ-139_020311_01A PZ-139_020311_36A	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12215-1	PZ-139_020311_01	Fluoride	1.1U mg/L	A	F
280-12215-1	PZ-139_020311_36	Fluoride	1.1U mg/L	A	F
280-12215-1	PZ-139_020311_01A	Dissolved hexavalent chromium	0.0043U mg/L	A	F

LDC #: 24989O6 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/2/11
SDG #: 280-12215-1 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: CR
2nd Reviewer:

METHOD: (Analyte) ~~Ammonia-N (EPA Method 350.2)~~, Bromide, Chloride, Fluoride, Nitrate-N, Nitrite-N, Orthophosphate, Sulfate (EPA Method 300.0), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), ~~pH (EPA SW846 Method 9040B)~~.

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 2/3/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	D
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(5,6), (7,8), (2,PZ-141_020311_03 (SDG: 280-11638-1))
X	Field blanks	SW	FB= FB_01141L_19 , EB= 1,4

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-141_020311	11	PZ-141_020311_01DUP	21	PBW	31	
2	PZ-141_020311_01	12	PZ-139_020311_36AMS	22		32	
3	RD-75_020311_01	13	PZ-139_020311_36AMSD	23		33	
4	EB_PZ-139_020311	14	PZ-139_020311_36ADUP	24		34	
5	PZ-139_020311_01	15		25		35	
6	PZ-139_020311_36	16		26		36	
7	PZ-139_020311_01A	17		27		37	
8	PZ-139_020311_36A	18		28		38	
9	PZ-141_020311_01MS	19		29		39	
10	PZ-141_020311_01MSD	20		30		40	

Notes:

LDC #: 24988906

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: AR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,4		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4 (Br) (Diss. Cr^{6+})
2,5,6		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Br)
3		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
7,8		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4 (Diss Cr^{6+})
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC: 9		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Br)
10		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Br)
11		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Br)
12		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4
13		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC (CR^{6+}) ClO_4
14		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Diss Cr^{6+})
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 24468906

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: CR
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	7196A					
Parameters:	Cr6+ (total & dissolved)					
Technical holding time:	24hrs					

Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
1	2/3/10 07:50	2/4/11 12:53	(29hrs)				J/UJ/P (H)
4	07:15	↓	(29.75hrs)				↓
7,8,12-14	12:00	↓	(25hrs)				↓

LDC #: 24989O6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: GC
2nd Reviewer: C

METHOD: Inorganics, EPA Method See Cover

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: SO4=2, 5, 6

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		No Qualifiers							
Sulfate	0.37	1.85								

Sampling date: 2/3/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: F=2; Cr6+, Diss Cr6+=none

Analyte	Blank ID	Action Limit	Sample Identification							
	1		No Qualifiers (>5x)							
Fluoride	0.067	0.335								
Hexavalent Chromium	0.0043	0.0215								
Dissolved Hexavalent Chromium	0.0043	0.0215								

Sampling date: 2/3/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: F, oPO4, SO4=5, 6; Cr6+, Diss Cr6+=7, 8

Analyte	Blank ID	Action Limit	Sample Identification							
	4		5	6	7					
Fluoride	0.25	1.25	1.1	1.1						
Orthophosphate as Phosphate	0.68	3.4								
Sulfate	0.29	1.45								
Hexavalent Chromium	0.0043	0.0215								
Dissolved Hexavalent Chromium	0.0043	0.0215			0.0043					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC# 24989O6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: [illegible]
2nd Reviewer: [illegible]

Inorganics, Method See Cover

(Y) N NA Were field duplicate pairs identified in this SDG?
(Y) N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	5	6		
Fluoride	1.1	1.1	0	
Chloride	30	30	0	
Nitrite	0.32	0.35	9	
Bromide	0.28	0.27	4	
Nitrate	5.9	5.9	0	
Sulfate	120	120	0	

Analyte	Concentration (mg/L)		RPD (≤35)	
	7	8		
Dissolved Hexavalent Chromium	0.0043	0.0040U	7	

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LDC# 24989O6

VALIDATION FINDINGS WORKSHEET
Split Duplicates

Page: of
Reviewer:
2nd Reviewer:

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	2	PZ-141_020311_03		
Bromide	0.18	0.36	67	NQ (<5x RL)
Fluoride	0.34	0.45	28	
Chloride	70	78	11	
Nitrate	1.0	0.32	103	NQ (<5x RL)
Sulfate	310	320	3	

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12215-1/A1B040486

Sample Identification

EB_PZ-141_020311
PZ-141_020311_01
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36
SH-02_020311_01
SH-03_020311_01
EB_SH-04_020311
SH-04_020311_01

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Samples EB_PZ-141_020311, EB_PZ-139_020311, ad EB_SH-04_020311 were identified as equipment blanks. No formaldehyde was found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-141_020311	2/3/11	Formaldehyde	15 ug/L	PZ-141_020311_01
EB_PZ-139_020311	2/3/11	Formaldehyde	15 ug/L	PZ-139_020311_01 PZ-139_020311_36

Sample FB_1011411_19 (from SDG 11638-1) was identified as a field blank. No formaldehyde was found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_1011411_19	1/28/11	Formaldehyde	21 ug/L	PZ-141_020311_01 PZ-139_020311_01 PZ-139_020311_36 SH-02_020311_01 SH-03_020311_01 SH-04_020311_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-141_020311_01	Formaldehyde	15 ug/L	50U ug/L
PZ-139_020311_36	Formaldehyde	13 ug/L	50U ug/L

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1/A1B040486	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as duplicate samples. No formaldehyde was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-139_020311_01	PZ-139_020311_36			
Formaldehyde	50U	13	117 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Samples PZ-141_020311_01 and PZ-141_020311_03 (from SDG IUB0547) were identified as split samples. No formaldehyde was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-141_020311_01	PZ-141_020311_03			
Formaldehyde	15	30U	67 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-12215-1/A1B040486

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1/A1B040486	EB_PZ-141_020311 PZ-141_020311_01 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36 SH-02_020311_01 SH-03_020311_01 EB_SH-04_020311 SH-04_020311_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-12215-1/A1B040486

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-12215-1/A1B040486

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-12215-1/A1B040486	PZ-141_020311_01	Formaldehyde	50U ug/L	50U ug/L	F
280-12215-1/A1B040486	PZ-139_020311_36	Formaldehyde	50U ug/L	50U ug/L	F

LDC #: 24989O71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/03/11
SDG #: 280-12215-1/A1B040486 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: DL
2nd Reviewer: [illegible]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS ID
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates / Split	SW	D = 4,5 S = 2 + PZ-141_020311_03 (IN054
X.	Field blanks	SW	EB = 1, 3, 8.* FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
*ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

+ 1	EB_PZ-141_020311	11	10 35279-MP	21		31	
+ 2	PZ-141_020311_01	12		22		32	
+ 3	EB_PZ-139_020311	13		23		33	
- 4	PZ-139_020311_01 D	14		24		34	
+ 5	PZ-139_020311_36 D	15		25		35	
- 6	SH-02_020311_01	16		26		36	
- 7	SH-03_020311_01	17		27		37	
- 8	EB_SH-04_020311	18		28		38	
- 9	SH-04_020311_01	19		29		39	
10		20		30		40	

Notes: _____

LDC #: 24989 071

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: __ GC __/ HPLC
Y N N/A Were field blanks identified in this SDG?
Y/N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 2/03/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 2 Code: F

Compound	Blank ID	Blank ID	Sample Identification							
	1		2							
Formaldehyde	15		15 /50 U							
CRQL										

Blank units: ug/L Associated sample units: ug/L
Sampling date: 2/03/11
Field blank type: (circle one) Field Blank / Trip Blank/ ~~Atmospheric~~ Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 4, 5 ~~(NA5)~~ Code: F

Compound	Blank ID	Blank ID	Sample Identification							
	3		5							
Formaldehyde	15		13 /50 U							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 24989071

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MC
2nd Reviewer: e

METHOD: __ GC / HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: 2, 4, 5, 6, 7, 9 Code: F

Compound	Blank ID	Blank ID	Sample Identification								
(from 280-11638-1)	FB-01	1411-19	2	5							
Formaldehyde	21		15 /50 U	13 /50 U							
CRQL											

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification								
CRQL											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#:24989O71

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315)

(Y) N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	4	5	RPD	
Formaldehyde	50U	13	117	NQ

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LDC#:24989O71

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	PZ-141_020311_01	PZ-141_020311_03		
Formaldehyde	15	30U	67	NQ

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12215-1

Sample Identification

EB_PZ-141_020311
PZ-141_020311_01
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0048 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks.

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No hydrazine contaminants were found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12215-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicates. No hydrazines were detected in any of the samples.

Samples PZ-141_020311_01 and PZ-141_020311_03 (from SDG IUB0547/HAL73) were identified as split samples. No hydrazines were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-12215-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12215-1	EB_PZ-141_020311 PZ-141_020311_01 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-12215-1

No Sample Data Qualified in this SDG

LDC #: 24989O76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/2/11
SDG #: 280-12215-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: cR
2nd Reviewer: L

METHOD: ~~HPLC~~ Hydrazines (Method ~~DVWC-0077~~ DV-WC-0048)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/3/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
~~IVa.~~	~~Surrogate recovery~~	N	Not required
IVb.	Matrix spike/Matrix spike duplicates	N	Client specified
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	(4,5) Split=(2, PZ-141-020311_03 (SDG: 10B0547/HALT (SDG: 280-11638-1))
X.	Field blanks	ND	FB=FB011411_19 ; EB=1,3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	EB_PZ-141_020311	11	RBW	21		31	
2	PZ-141_020311_01	12		22		32	
3	EB_PZ-139_020311	13		23		33	
4	PZ-139_020311_01	14		24		34	
5	PZ-139_020311_36	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 24989076

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: CR
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1-5		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 4, 2011

Matrix: Water

Parameters: Dioxins/Dibenzofurans

Validation Level: EPA Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12223-1/H1B050407

Sample Identification

EB_PZ-141_020311
EB_PZ-139_020311
PZ-139_020311_01
PZ-139_020311_36

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Samples EB_PZ-141_020311 and EB_PZ-139_020311 were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in these blanks.

Sample FB_011411_19 (from SDG 280-11646-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD	0.70 pg/L	PZ-139_020311_01
		1,2,3,4,7,8-HxCDD	0.42 pg/L	PZ-139_020311_36
		1,2,3,7,8,9-HxCDD	0.48 pg/L	
		1,2,3,4,6,7,8-HpCDD	1.3 pg/L	
		OCDD	2.2 pg/L	
		1,2,3,7,8-PeCDF	0.48 pg/L	
		2,3,4,7,8-PeCDF	0.40 pg/L	
		1,2,3,4,7,8-HxCDF	0.50 pg/L	
		2,3,4,6,7,8-HxCDF	0.52 pg/L	
		1,2,3,7,8,9-HxCDF	0.78 pg/L	
		1,2,3,4,6,7,8-HpCDF	0.78 pg/L	
		1,2,3,4,7,8,9-HpCDF	0.74 pg/L	
		OCDF	2.0 pg/L	

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12223-1/H1B050407	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-139_020311_01 and PZ-139_020311_36 were identified as field duplicates. No polychlorinated dioxins/dibenzofurans were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-12223-1/H1B050407

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12223-1/H1B050407	EB_PZ-141_020311 EB_PZ-139_020311 PZ-139_020311_01 PZ-139_020311_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-12223-1/H1B050407

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-12223-1/H1B050407

No Sample Data Qualified in this SDG

LDC #: 24989P21 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/04/11
SDG #: 280-12223-1/H1B050407 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	ND	D = 3, 4
XV.	Field blanks	SW	EB = 1, 2 FB = FB_011411_19 (from 280-11648-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	EB_PZ-141_020311	11	1038080-MB	21		31	
2	EB_PZ-139_020311	12		22		32	
3	PZ-139_020311_01	13		23		33	
4	PZ-139_020311_36	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 24989 P21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DVG
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** pg/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 3, 4 (MD)

Compound	Blank ID	Sample Identification								
(from 286-116248-1)	FB_011411_19									
B	0.70									
C	0.42									
E	0.48									
F	1.3									
G	2.2									
I	0.48									
CRQL J	0.40									

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
K	0.50									
M	0.52									
N	0.78									
O	0.78									
P	0.74									
Q	2.0									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 10, 2011

LDC Report Date: March 15, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12426-1

Sample Identification

HAR-30_021011_01
HAR-30_021011_36
FB_HAR-30_021011_19
HAR-30_021011_01MS
HAR-30_021011_01MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 4500D for Total Sulfide and EPA SW 846 Method 9012A for Cyanide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

Sample FB_HAR-30_021011_19 was identified as a field blank. No contaminant concentrations were found in this blank.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12426-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples HAR-30_021011_01 and HAR-30_021011_36 were identified as field duplicates samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	HAR-30_021011_01	HAR-30_021011_36			
Cyanide	0.0030	0.0020U	40 (≤35)	NQ	-
Sulfide	0.39	0.33	17 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Samples HAR-30_021011_01 and HAR-30_021011_03 (from SDG IUB1285) were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	HAR-30_021011_01	HAR-30_021011_03			
Cyanide	0.0030	0.0022U	31 (≤35)	-	-
Sulfide	0.39	0.42	7 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-12426-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12426-1	HAR-30_021011_01 HAR-30_021011_36 FB_HAR-30_021011_19	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-12426-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-12426-1

No Sample Data Qualified in this SDG

LDC #: 24989Q6 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/9/11
SDG #: 280-12426-1 Level IV Page: 1 of 1
Laboratory: Test America Inc. Reviewer: CR
2nd Reviewer: [illegible]

-52-D SW846

METHOD: (Analyte) Total Sulfide (SM 4500D), Total Cyanide(~~SM~~9012A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/10/10 11
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	(1,2) split= 1+ HAR-30_021011_03(1 ULB 1=85)
X	Field blanks	ND	FB=3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	HAR-30_021011_01	11		21		31	
2	HAR-30_021011_36	12		22		32	
3	FB_HAR-30_021011_19	13		23		33	
4	HAR-30_021011_01MS	14		24		34	
5	HAR-30_021011_01MSD	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 49896

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: CR
2nd Reviewer: V

Method: Inorganics (EPA Method See Cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients > 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.		✓		

LDC #: 26469Q6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
LB		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK (CN⁻) (NH₃) TKN TOC CR^{6+} ClO (Sulfide)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
QC: 4		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK (CN⁻) NH_3 TKN TOC CR^{6+} ClO_4 (S=)
LS		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK (CN⁻) NH_3 TKN TOC CR^{6+} ClO_4 (S=)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN⁻ NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC# 24989Q6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: QC
2nd Reviewer:

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	1	2		
Cyanide	0.0030	0.0020U	40	NQ (<5x RL)
Sulfide	0.39	0.33	17	

V:\FIELD DUPLICATES\FD_inorganic\24989Q6.wpd

LDC# 24989Q6

VALIDATION FINDINGS WORKSHEET

Field Duplicates

Split

Reviewer: SV

2nd Reviewer:

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	1	HAR-30_021011_03		
Cyanide	0.0030	0.0022U	31	
Sulfide	0.39	0.42	7	

V:\FIELD DUPLICATES\FD_inorganic\24989Q6a.wpd

LDC #: 24989Q6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: AR
2nd Reviewer:

Method: Inorganics, Method see cover

The correlation coefficient (r) for the calibration of CN was recalculated. Calibration date: 2/16/11

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100 / True

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/l)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	CN	s1	0	294	*0.999992*	0.999992	Y
		s2	10	9216			
		s3	20	16224			
		s4	50	39969			
		s5	100	79722			
		s6	200	160407			
		s7	400	320280			
Calibration verification	CN	CCV	200	199.264	100	100	
Calibration verification	Sulfide	ICV	0.316	0.30427	96	96	
Calibration verification	"	CCV	0.5	0.53248	106	—	

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 24879q6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: GR
2nd Reviewer:

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units) mg/L	True / D (units) mg/L	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	CN	0.0993	0.1	99	99	Y
4	Matrix spike sample	Sulfide	(SSR-SR) 0.407	0.51	80	80	↓
4/5	Duplicate sample	~~CN~~ ~~0.0813~~	0.0813	0.0813	0	0	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 24998Q6

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer: [signature]

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for CN reported with a positive detect were recalculated and verified using the following equation:

Concentration = $y = 799.57x + 349.88$

Recalculation: $\left(\frac{2786 - 349.88}{799.57}\right) = 0.0030$ mg/L /100

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	1	CN	0.0030	0.0030	Y
		Sulfide	0.39	0.39	J

Note:

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 28, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25012:

SDG #	Fraction
280-11778-1/ S101233-8989	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane,
280-11787-2, 280-11896-2	Semivolatiles, Polynuclear Aromatic
280-11959-2	Hydrocarbons, N-Nitrosodimethylamine,
280-11959-1/ A1A270446	Polychlorinated Biphenyls, Metals, Wet
280-12139-2, 280-12173-2	Chemistry, Gasoline Range Organics, Diesel
280-12249-1/ IUB0751/	Range Organics, Formaldehyde, Hydrazine,
A1B050432	Dioxins/Dibenzofurans, Perchlorate, Gross Alpha
280-12250-1/ H1B080407	& Beta, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

V:\LOGIN\MWH\Boeing\25012COV.wpd

Client Select IV

LDC #25012 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		PAH (8270C-SIM)		NDMA (1625)		PCB (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (8015M)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxin (8290)		CLO_4 (6860)		S= (4500D)	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
B	280-11787-2	02/28/11	03/21/11	-	-	-	-	-	-	-	-	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	280-11896-2	02/28/11	03/21/11	-	-	-	-	-	-	-	-	-	-	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0
D	280-11959-2	02/28/11	03/21/11	-	-	-	-	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	280-11959-1/ A1A270446	02/28/11	03/21/11	13	0	12	0	-	-	7	0	2	0	7	0	2	0	1	0	3	0	7	0	7	0	5	0	2	0	4	0	-	-	-	-
F	280-12139-2	02/28/11	03/21/11	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
G	280-12173-2	02/28/11	03/21/11	-	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0
H	280-12249-1/ IUB0751/ A1B050432	02/28/11	03/21/11	3	0	3	0	3	0	-	-	-	-	2	0	1	0	-	-	1	0	1	0	4	0	1	0	1	0	1	0	-	-	-	-
I	280-12250-1/ H1B080407	02/28/11	03/21/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-
Total	A/PG			16	0	15	0	3	0	7	0	2	0	26	0	3	0	1	0	4	0	8	0	11	0	6	0	3	0	5	0	1	0	7	0

Client Select IV

LDC #25012 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N (350.1)		Br NO_2-N O-PO_4		Cl SO_4 (300.0)		F NO_3-N (300.0)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		Cr(VI) (7196A)		Diss Cr(VI) (7196A)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-11778-1/ S101233-8989	02/28/11	03/21/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	6	0	6	0	3	0	6	0
E	280-11959-1	02/28/11	03/21/11	1	0	5	0	2	0	3	0	7	0	1	0	6	0	3	0	1	0	1	0	2	0	2	0	-	-	-	-	-	-	-	-	-	-
H	280-12249-1	02/28/11	03/21/11	-	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-
Total	A/PG			1	0	5	0	2	0	3	0	7	0	1	0	8	0	3	0	1	0	1	0	3	0	3	0	6	0	6	0	6	0	3	0	6	65

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 19, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Gross Alpha & Beta

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11778-1/S011233-8989

Sample Identification

RD-33A_011911_01D
RD-50_011911_01D
RD-57_011911_01D
RD-33A_011911_01DDUP
RD-33A_011911_01P
RD-50_011911_01P
RD-57_011911_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analysis were not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11778-1/S011233-8989	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Data Qualification Summary - SDG 280-11778-1/S011233-8989

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11778-1/S011233-8989	RD-33A_011911_01D RD-50_011911_01D RD-57_011911_01D RD-33A_011911_01P RD-50_011911_01P RD-57_011911_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

LDC #: 25012A36 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/11

SDG #: 280-11778-1/S011233-8989 Level V Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer:

METHOD: ~~Alpha Spectroscopy (Method 900.0)~~ Gross Alpha & Gross Beta

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVa.	Laboratory control samples	A	LCS
~~V.~~	~~Sample specific chemical recovery~~		
VI.	~~Radionuclide Quantitation & Implied Detection Limits~~ MDA	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-33A_011911_01 D	11	PBLW	21		31	
2	RD-50_011911_01 D	12		22		32	
3	RD-57_011911_01 D	13		23		33	
4	RD-33A_011911_01DUP D	14		24		34	
5	(MI) P	15		25		35	
6	(M2) P	16		26		36	
7	(M3) P	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 19, 2011
LDC Report Date:	March 7, 2011
Matrix:	Water
Parameters:	Tritium
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11778-1/S011233-8989

Sample Identification

RD-33A_011911_01
RD-50_011911_01
RD-57_011911_01
RD-33A_011911_01DUP

Introduction

This data review covers 4 water samples listed on the cover sheet. The analyses were per EPA Method 906.0 for Tritium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analysis were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11778-1/S011233-8989	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Tritium - Data Qualification Summary - SDG 280-11778-1/S011233-8989

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11778-1/S011233-8989	RD-33A_011911_01 RD-50_011911_01 RD-57_011911_01	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Tritium - Laboratory Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Tritium - Field Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

LDC #: 25012A34 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/11

SDG #: 280-11778-1/S011233-8989 Level V Page: 1 of 1

Laboratory: EBERLINE Services TestAmerica Reviewer: CC

2nd Reviewer:

METHOD: Tritium (EPA Method 906.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-33A_011911_01	11	SW	21		31	
2	RD-50_011911_01	12		22		32	
3	RD-57_011911_01	13		23		33	
4	RD-33A_011911_01DUP	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 13, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Gamma Spectroscopy
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Analytical
Sample Delivery Group (SDG):	280-11778-1/S011233-8989

Sample Identification

RD-33A_011911_01D
RD-50_011911_01D
RD-57_011911_01D
RD-33A_011911_01DDUP
RD-33A_011911_01P
RD-50_011911_01P
RD-57_011911_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 901.1 for Gamma Spectroscopy.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analysis were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11778-1/S011233-8989	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Data Qualification Summary - SDG 280-11778-1/S011233-8989

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11778-1/S011233-8989	RD-33A_011911_01D RD-50_011911_01D RD-57_011911_01D RD-33A_011911_01P RD-50_011911_01P RD-57_011911_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Laboratory Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Gamma Spectroscopy - Field Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

LDC #: 25012A35 (V) **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/11

SDG #: 280-11778-1/S011233-8989 Level V Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer:

METHOD: ~~Gross Alpha & Gross Beta~~ ~~Gamma Spectroscopy~~ (EPA Method 901.1) CR STAY

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	Dup
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-33A_011911_01 D	11		21	PBW	31	
2	RD-50_011911_01 D	12		22		32	
3	RD-57_011911_01 D	13		23		33	
4	RD-33A_011911_01DUP P	14		24		34	
5	(MW1) P	15		25		35	
6	(MW2) P	16		26		36	
7	(MW3) P	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D = dissolved P = particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 19, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Isotopic Uranium

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11778-1/S011233-8989

Sample Identification

RD-33A_011911_01D
RD-50_011911_01D
RD-57_011911_01D
RD-33A_011911_01DDUP
RD-33A_011911_01P
RD-50_011911_01P
RD-57_011911_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 908.0 for Isotopic Uranium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Tracer Recovery

All tracer recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11778-1/S011233-8989	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Data Qualification Summary - SDG 280-11778-1/S011233-8989

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11778-1/S011233-8989	RD-33A_011911_01D RD-50_011911_01D RD-57_011911_01D RD-33A_011911_01P RD-50_011911_01P RD-57_011911_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Field Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

LDC #: 25012A59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/11
SDG #: 280-11778-1/S011233-8989 Level V Page: 1 of 1
Laboratory: EBERLINE Services Reviewer: CR
Test America 2nd Reviewer: W

METHOD: Isotopic Uranium (Method 908.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVa.	Laboratory control samples	A	LCS
V.	Tracer Recovery	A	
VI.	Minimum Detectable Activity (MDA)	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-33A_011911_01D	11	RB1	21		31	
2	RD-50_011911_01 D	12		22		32	
3	RD-57_011911_01 D	13		23		33	
4	RD-33A_011911_01DUP ND	14		24		34	
5	(MW1) P	15		25		35	
6	(MW2) P	16		26		36	
7	(MW3) P	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=~~dissolved~~ dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 19, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Strontium-90

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Analytical

Sample Delivery Group (SDG): 280-11778-1/S011233-8989

Sample Identification

RD-33A_011911_01D
RD-50_011911_01D
RD-57_011911_01D
RD-33A_011911_01DDUP
RD-33A_011911_01P
RD-50_011911_01P
RD-57_011911_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 7 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field duplicates were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Carrier Recovery

All carrier recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11778-1/S011233-8989	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Strontium-90 - Data Qualification Summary - SDG 280-11778-1/S011233-8989

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11778-1/S011233-8989	RD-33A_011911_01D RD-50_011911_01D RD-57_011911_01D RD-33A_011911_01P RD-50_011911_01P RD-57_011911_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-11778-1/S011233-8989

No Sample Data Qualified in this SDG

LDC #: 25012A61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/11

SDG #: 280-11778-1/S011233-8989 Level V Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer:

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/19/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
IVc.	Carrier recovery	A	
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-33A_011911_01 D	11	PBW	21		31	
2	RD-50_011911_01 D	12		22		32	
3	RD-57_011911_01 D	13		23		33	
4	RD-33A_011911_01DUP P	14		24		34	
5	(~~MS~~1) P	15		25		35	
6	(~~MS~~2) P	16		26		36	
7	(~~MS~~3) P	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 20, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11787-2

Sample Identification

EB_SH-09_012011
SH-09_012011_36
FB_SH-09_012011_19
HAR-23_012011_36
FB_HAR-23_012011_19

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_SH-09_012011 was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Samples FB_011411_19 (from SDG 280-11638-1) and FB_SH-09_012011_19 and FB_HAR-23_012011_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11787-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-09_012011_36 and SH-09_012011_01 (from SDG 280-11787-1) and HAR-23_012011_36 and HAR-23_012011_01 (from SDG 280-11787-1) were identified as field duplicate samples. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-09_012011_01	SH-09_012011_36			
N-Nitrosodimethylamine	0.0064	0.0080	22 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-23_012011_01	HAR-23_012011_36			
N-Nitrosodimethylamine	0.028	0.029	4 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11787-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11787-2	EB_SH-09_012011 SH-09_012011_36 FB_SH-09_012011_19 HAR-23_012011_36 FB_HAR-23_012011_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11787-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11787-2

No Sample Data Qualified in this SDG

LDC #: 25012B2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/07/11
SDG #: 280-11787-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/20/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	D_2 = 4 + HAR-23_012011_01 } from 280-11787-1
XVI.	Field duplicates	SW	D_1 = 2 + SH-09_012011_01 } from 280-11787-1
XVII.	Field blanks	ND	EB = 1 FB = 3 5, FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_SH-09_012011	11	MB 280-50559/1-A	21		31	
2	SH-09_012011_36 D_1	12		22		32	
3	FB_SH-09_012011_19	13		23		33	
4	HAR-23_012011_36 D_2	14		24		34	
5	FB_HAR-23_012011_19	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:25012B2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JV6
2nd Reviewer: [illegible]

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	SH-09_012011_01	SH-09_012011_36		
NDMA	0.0064	0.0080	22	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-23_012011_01	HAR-23_012011_36		
NDMA	0.028	0.029	4	

V:\FIELD DUPLICATES\25012B2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 25, 2011
LDC Report Date:	March 16, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11896-2

Sample Identification

FB_HAR-16_012511_19
RD-46A_012511_36
FB_RD-46A_012511_19

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples FB_HAR-16_012511_19 and FB_RD-46A_012511_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-46A_012511_36 and RD-46A_012511_01 (from SDG 280-11896-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RD-46A_012511_36	RD-46A_012511_01			
N-Nitrosodimethylamine	0.0096	0.005U	63 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11896-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-2	FB_HAR-16_012511_19 RD-46A_012511_36 FB_RD-46A_012511_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11896-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11896-2

No Sample Data Qualified in this SDG

LDC #: 25012C2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/16/11
SDG #: 280-11896-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VV
2nd Reviewer: [signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 2 + RD-46A_012511_01 (280-11896-1)
XVII.	Field blanks	ND	FB = 1, 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	FB_HAR-16_012511_19	11	MD 280-51406/A	21		31	
2	RD-46A_012511_36	12		22		32	
3	FB_RD-46A_012511_19	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:25012C2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	RD-46A_012511_01	RD-46A_012511_36		
NDMA	0.0096	0.005U	63	NQ

V:\FIELD DUPLICATES\25012C2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11896-2

Sample Identification

HAR-04_012511_01
HAR-03_012511_01
HAR-16_012511_01
HAR-16_012511_36
HAR-04_012511_01MS
HAR-04_012511_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. LC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11896-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-16_012511_01 and HAR-16_012511_36 were identified as field duplicates. No perchlorate was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-16_012511_01	HAR-16_012511_36			
Perchlorate	130	120	8 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Data Qualification Summary - SDG 280-11896-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11896-2	HAR-04_012511_01 HAR-03_012511_01 HAR-16_012511_01 HAR-16_012511_36	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-11896-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG 280-11896-2

No Sample Data Qualified in this SDG

LDC #: 25012A87 (C) **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-11896-2 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: QR

2nd Reviewer: V

METHOD: ~~LC~~/MS Perchlorate (EPA SW846 Method 6860) (LC)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	MS/D
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	(3,4)
XVII.	Field blanks	N	~~FB 5, 7~~ 02

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	HAR-04_012511_01	11	MB 280-53033/4	21		31	
2	HAR-03_012511_01	12		22		32	
3	HAR-16_012511_01	13		23		33	
4	HAR-16_012511_36	14		24		34	
~~5~~	~~FB_HAR-16_012511_19~~	15		25		35	
6	RD-46A_012511_36	16		26		36	
~~7~~	~~FB_RD-46A_012511_19~~	17		27		37	
8	HAR-04_012511_01MS	18		28		38	
9	HAR-04_012511_01MSD	19		29		39	
10		20		30		40	

LDC#25012A87

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: CE
2nd Reviewer: [signature]

Inorganics, Method See Cover

(Y) N NA Were field duplicate pairs identified in this SDG?
(Y) N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (ug/L)		RPD (≤35)	
	3	4		
Perchlorate	130	120	8	

V:\FIELD DUPLICATES\FD_inorganic\25012A87.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 26, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11959-2

Sample Identification

RS-08_012611_36
FB_RS-08_012611_19
HAR-09_012611_36
FB_HAR-09_012611_19
HAR-21_012611_36
FB_HAR-21_012611_19

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples FB_RS-08_012611_19, FB_HAR-09_012611_19, and FB_HAR-21_012611_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RS-08_012611_36 and RS-08_012611_01 (from SDG 280-11959-1), samples HAR-09_012611_36 and HAR-09_012611_01 (from SDG 280-11959-1), and samples HAR-21_012611_36 and HAR-21_02611_01 (from SDG 280-11959-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RS-08_012611_01	RS-08_012611_36			
N-Nitrosodimethylamine	0.016	0.0050U	105 (≤35)	NQ	-

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-09_012611_01	HAR-09_012611_36			
N-Nitrosodimethylamine	0.017	0.0081	71 (≤35)	NQ	-

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-21_012611_01	HAR-21_012611_36			
N-Nitrosodimethylamine	0.048	0.048	0 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11959-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-2	RS-08_012611_36 FB_RS-08_012611_19 HAR-09_012611_36 FB_HAR-09_012611_19 HAR-21_012611_36 FB_HAR-21_012611_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11959-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11959-2

No Sample Data Qualified in this SDG

LDC #: 25012D2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/07/11
SDG #: 280-11959-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MC
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_1 = 1 + RS-08_012611-01 D_2 = 3 + HAR-09_012611-01 D_3 = 5 + HAR-21-012611-01 > from 280-11959-1
XVII.	Field blanks	ND	FB = 2, 4, 6

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1 —	RS-08_012611_36 D_1	11 —	MB 280-51406/1-A	21		31	
2 —	FB_RS-08_012611_19	12		22		32	
3 +	HAR-09_012611_36 D_2	13		23		33	
4 —	FB_HAR-09_012611_19	14		24		34	
5 +	HAR-21_012611_36 D_3	15		25		35	
6 —	FB_HAR-21_012611_19	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:25012D2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVC
2nd Reviewer: [signature]

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	RS-08_012611_01	RS-08_012611_36		
NDMA	0.016	0.0050U	105	NQ

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-09_012611_01	HAR-09_012611_36		
NDMA	0.017	0.0081	71	NQ

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-21_012611_01	HAR-21_012611_36		
NDMA	0.048	0.048	0	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 26, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11959-1

Sample Identification

RS-08_012611_01
TB_RS-08_012611
HAR-09_012611_01
HAR-21_012611_01
RD-51B_012611_01
TB_RD-51B_012611
RD-51C_012611_01
RD-34A_012611_01
RD-82_012611_01
RD-83_012611_01
PZ-129_012611_01
EB_PZ-129_012611
TB_PZ-129_012611
RD-51B_012611_01MS
RD-51B_012611_01MSD

Introduction

This data review covers 15 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-52122/6	2/7/11	Methylene chloride	0.334 ug/L	RD-51B_012611_01 TB_RD-51B_012611 RD-51C_012611_01 PZ-129_012611_01 EB_PZ-129_012611 TB_PZ-129_012611

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Samples TB_RS-08_012611, TB_RD-51B_012611, and TB_PZ-129_012611 were identified as trip blanks. No volatile contaminants were found in these blanks.

Sample EB_PZ-129_012611 was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-129_012611	1/26/11	Chloroform	4.2 ug/L	PZ-129_012611_01

Sample FB_011411_19 (from SDG 280-116384-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform Styrene	2.5 ug/L 0.40 ug/L	PZ-129_012611_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RS-08_012611_01	1,2-Dichloroethane-d4	79 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
RD-82_012611_01	1,2-Dichloroethane-d4	75 (80-120)	All TCL compounds	J (all detects) UJ (all non-detects)	P
PZ-129_012611_01	Toluene-d8	114 (88-110)	All TCL compounds	J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-51B_012611_01MS/MSD (RD-51B_012611_01)	2-Chloroethylvinyl ether	0 (17-150)	0 (17-150)	-	J (all detects) R (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-1	RS-08_012611_01 RD-82_012611_01	All TCL compounds	J (all detects) UJ (all non-detects)	P	Surrogate spikes (%R) (S)
280-11959-1	PZ-129_012611_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-11959-1	RD-51B_012611_01	2-Chloroethylvinyl ether	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-11959-1	RS-08_012611_01 TB_RS-08_012611 HAR-09_012611_01 HAR-21_012611_01 RD-51B_012611_01 TB_RD-51B_012611 RD-51C_012611_01 RD-34A_012611_01 RD-82_012611_01 RD-83_012611_01 PZ-129_012611_01 EB_PZ-129_012611 TB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

LDC #: 25012E1a

SDG #: 280-11959-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/07/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: [signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	*TB = 2, 6, 13 EB = 12 FB = FB_011411-19 (from 280-11678-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

+ 1	RS-08_012611_01	+ 11 1/3	PZ-129_012611_01	- 21 1	MB 280-51291/5	31	(II, FFFF, GGGG)
- 2	TB_RS-08_012611	+ 12 1/3	EB_PZ-129_012611	- 22	MB 280-52058/4	32	
+ 3	HAR-09_012611_01	- 13 1/3	TB_PZ-129_012611	23	MB 280-52122/6	33	
+ 4	HAR-21_012611_01	14	RD-51B_012611_01MS	24		34	
+ 5	RD-51B_012611_01	15	RD-51B_012611_01MSD	25		35	
- 6	TB_RD-51B_012611	16		26		36	
- 7	RD-51C_012611_01	17		27		37	
+ 8	RD-34A_012611_01	18		28		38	
+ 9	RD-82_012611_01	19		29		39	
+ 10	RD-83_012611_01	20		30		40	

VOCs = 1-4, 8-10

VOCs + IPA = 5-7

SVR = 11-13

25012A1aW.wpd

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 25012 E 1A

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JV
2nd Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 2/07/11
Conc. units: ug/L Associated Samples: 5-7, 11, 12, 13 (ND)

Compound	Blank ID	Sample Identification								
MB	280-52122/6									
Methylene chloride E	0.334									
Acetone										
CRQL										

Blank analysis date:
Conc. units: Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 25012 E1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?
Y/N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 11 (ND)

Compound (from 280-116738-1)	Blank ID FB_011411_19	Blank ID EB 12	Sample Identification							
Sampling Date	1/14/11	1/26/11								
~~Methylene chloride~~ K	2.5	4.2								
~~Acetone~~ FF	0.40									
Chloroform										
CRQL										

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 25012 E1c

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: VB
2nd Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	DCE	79 (80-120)	J /UJ /p (S)
		9		75 ( )	
		11	TOL	114 (88-110)	J dets /p

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC #: 25012 E1a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: VG
2nd Reviewer:

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	14/15	II	0 (17-150)	0 (17-150)	( )	5	J/R/A (Q)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 26, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11959-1

Sample Identification

RS-08_012611_01
TB_RS-08_012611
HAR-09_012611_01
HAR-21_012611_01
RD-51B_012611_01
TB_RD-51B_012611
RD-51C_012611_01
RD-34A_012611_01
RD-82_012611_01
PZ-129_012611_01
EB_PZ-129_012611
TB_PZ-129_012611

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_RS-08_012611, TB_RD-51B_012611, and TB_PZ-129_012611 were identified as trip blanks. No 1,4-Dioxane was found in these blanks.

Sample EB_PZ-129_012611 was identified as an equipment blank. No 1,4-Dioxane was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-1	RS-08_012611_01 TB_RS-08_012611 HAR-09_012611_01 HAR-21_012611_01 RD-51B_012611_01 TB_RD-51B_012611 RD-51C_012611_01 RD-34A_012611_01 RD-82_012611_01 PZ-129_012611_01 EB_PZ-129_012611 TB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

LDC #: 25012E1b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/07/11
SDG #: 280-11959-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: JVG
2nd Reviewer: Q

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2, 6, 12 EB = 11 FB = TB_011411-19 (from 280-11678-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RS-08_012611_01	11	EB_PZ-129_012611	21	MB 280-50965/1-A	31	
2	TB_RS-08_012611	12	TB_PZ-129_012611	22		32	
3	HAR-09_012611_01	13		23		33	
4	HAR-21_012611_01	14		24		34	
5	RD-51B_012611_01	15		25		35	
6	TB_RD-51B_012611	16		26		36	
7	RD-51C_012611_01	17		27		37	
8	RD-34A_012611_01	18		28		38	
9	RD-82_012611_01	19		29		39	
10	PZ-129_012611_01	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 26, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11959-1

Sample Identification

RS-08_012611_01
HAR-09_012611_01
HAR-21_012611_01
RD-51B_012611_01
RD-51C_012611_01
PZ-129_012611_01
EB_PZ-129_012611

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_PZ-129_012611 was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-1	RS-08_012611_01 HAR-09_012611_01 HAR-21_012611_01 RD-51B_012611_01 RD-51C_012611_01 PZ-129_012611_01 EB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

LDC #: 25012E2a

SDG #: 280-11959-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/07/11

Page: 1 of 1

Reviewer: VG

2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 7 FB = FB_011411_19 (from 280-11678-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

water

1	RS-08_012611_01	11	MB 280-51042/1-A	21		31	
2	HAR-09_012611_01	12		22		32	
3	HAR-21_012611_01	13		23		33	
4	RD-51B_012611_01	14		24		34	
5	RD-51C_012611_01	15		25		35	
6	PZ-129_012611_01	16		26		36	
7	EB_PZ-129_012611	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

MB = 1-3

Phthalate + MB ≥ 4, 5

Full = 6, 7

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 26, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11959-1

Sample Identification

RS-08_012611_01
HAR-09_012611_01
HAR-21_012611_01
RD-51B_012611_01
RD-51C_012611_01
PZ-129_012611_01
EB_PZ-129_012611

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-129_012611 was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Samples FB_011411_19 (from SDG 280-11638-1), FB_RS-08_012611_19, FB_HAR-09_012611_19, FB_HAR-21_012611_19 (from SDG 280-11959-2) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RS-08_012611_01 and RS-08_012611_36 (from SDG 280-11959-2), samples HAR-09_012611_01 and HAR-09_012611_36 (from SDG 280-11959-2), and samples HAR-21_012611_01 and HAR-21_02611_36 (from SDG 280-11959-2) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RS-08_012611_01	RS-08_012611_36			
N-Nitrosodimethylamine	0.016	0.0050U	105 (≤35)	NQ	-

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-09_012611_01	HAR-09_012611_36			
N-Nitrosodimethylamine	0.017	0.0081	71 (≤35)	NQ	-

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-21_012611_01	HAR-21_012611_36			
N-Nitrosodimethylamine	0.048	0.048	0 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-1	RS-08_012611_01 HAR-09_012611_01 HAR-21_012611_01 RD-51B_012611_01 RD-51C_012611_01 PZ-129_012611_01 EB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

LDC #: 25012E2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/07/11
SDG #: 280-11959-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JW
2nd Reviewer: [illegible]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D1 = 1 + RS-08_012611-36 D2 = 2 + HAR-09_012611-36 D3 = 3 + HAR-21_012611-36 } from 280-11959-2
XVII.	Field blanks	ND	FB = 7 FB = FB_011411_19 (from 280-11638-1) FB = FB_RS-08-012611_19 = FB_HAR-09_012611_19 = FB_HAR-21_012611_19 } from 280-11959

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

WATER

+ 1	RS-08_012611_01 D1	— 11	MB 280-51253/1-A	21		31	
+ 2	HAR-09_012611_01 D2	12		22		32	
+ 3	HAR-21_012611_01 D3	13		23		33	
— 4	RD-51B_012611_01	14		24		34	
— 5	RD-51C_012611_01	15		25		35	
— 6	PZ-129_012611_01	16		26		36	
— 7	EB_PZ-129_012611	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:25012E2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVC
2nd Reviewer: [signature]

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	RS-08_012611_01	RS-08_012611_36		
NDMA	0.016	0.0050U	105	NQ

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-09_012611_01	HAR-09_012611_36		
NDMA	0.017	0.0081	71	NQ

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-21_012611_01	HAR-21_012611_36		
NDMA	0.048	0.048	0	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 26, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Polynuclear Aromatic Hydrocarbons
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11959-1

Sample Identification

PZ-129_012611_01
EB_PZ-129_012611

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-51591/1-A	2/2/11	Benzo(b)fluoranthene	0.0373 ug/L	EB_PZ-129_012611
		Benzo(a)pyrene	0.155 ug/L	
		Benzo(a)anthracene	0.0357 ug/L	
		Benzo(k)fluoranthene	0.0304 ug/L	
		Benzo(g,h,i)perylene	0.0305 ug/L	
		Phenanthrene	0.0353 ug/L	
		Anthracene	0.0221 ug/L	
		Dibenzo(a,h)anthracene	0.156 ug/L	
		Chrysene	0.0380 ug/L	
		Fluoranthene	0.0378 ug/L	
		Fluorene	0.0190 ug/L	
		Pyrene	0.0345 ug/L	
		Indeno(1,2,3-cd)pyrene	0.144 ug/L	
		Naphthalene	0.00645 ug/L	
		Bis(2-ethylhexyl)phthalate	0.584 ug/L	
		Butylbenzylphthalate	0.568 ug/L	
		Di-n-butylphthalate	0.172 ug/L	
		Diethylphthalate	0.187 ug/L	
		Di-n-octylphthalate	0.768 ug/L	
MB 280-50800/1-A	1/27/11	Di-n-butylphthalate	0.0393 ug/L	PZ-129_012611_01
		Diethylphthalate	0.0702 ug/L	
		Di-n-octylphthalate	0.0724 ug/L	

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
PZ-129_012611_01	Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.037 ug/L 0.15 ug/L 0.066 ug/L	9.6U ug/L 9.6U ug/L 9.6U ug/L
EB_PZ-129_012611	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	0.010 ug/L 0.70 ug/L 0.55 ug/L 0.15 ug/L 0.15 ug/L 0.87 ug/L	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L

Sample EB_PZ-129_012611 was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-129_012611	1/26/11	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	0.010 ug/L 0.70 ug/L 0.55 ug/L 0.15 ug/L 0.87 ug/L 0.15 ug/L	PZ-129_012611_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Benzo(a)anthracene Chrysene Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.0054 ug/L 0.0037 ug/L 0.0073 ug/L 0.14 ug/L 0.060 ug/L 0.094 ug/L 0.51 ug/L	PZ-129_012611_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-129_012611_01	Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	0.026 ug/L 0.037 ug/L 0.066 ug/L 0.15 ug/L	9.6U ug/L 9.6U ug/L 9.6U ug/L 9.6U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LSC/D 280-51591/2,3-A (EB_PZ-129_012611 MB 280-51591/1-A)	Butylbenzylphthalate Di-n-octylphthalate	145 (28-120) 141 (39-128)	145 (28-120) 140 (39-128)	- -	J (all detects) J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-1	EB_PZ-129_012611	Butylbenzylphthalate Di-n-octylphthalate	J (all detects) J (all detects)	P	Laboratory control samples (%R) (L)
280-11959-1	PZ-129_012611_01 EB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11959-1	PZ-129_012611_01	Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	9.6U ug/L 9.6U ug/L 9.6U ug/L	A	B
280-11959-1	EB_PZ-129_012611	Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Diethylphthalate Di-n-octylphthalate	10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L 10U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-11959-1	PZ-129_012611_01	Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	9.6U ug/L 9.6U ug/L 9.6U ug/L 9.6U ug/L	A	F

LDC #: 25012E2c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/07/11
SDG #: 280-11959-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JG
2nd Reviewer: CL

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	SW	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 2 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-129_012611_01	11	MB 280-50800/1-A	21		31	
2	EB_PZ-129_012611	12	MB 280-51591/1-A	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 25012a E2c
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JR
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 2/02/11 **Blank analysis date:** 2/04/11

Conc. units: ug/L Associated Samples: 2 Code: B

Compound	Blank ID	Sample Identification								
MB	280-51591/1-A	2								
GGG	0.0373									
III	0.155									
CCC	0.0357									
HHH	0.0304									
LLL	0.0305									
UU	0.0353									
VV	0.0221									
KKK	0.156									
DDD	0.0380									
YY	0.0378									
NN	0.0190									
ZZ	0.0345									
JJJ	0.144									
S	0.00645		0.010/10 U							
EEE	0.584		0.70/							
AAA	0.568		0.55/							
XX	0.172		0.15/							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 25012 #2C

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 2/02/11 **Blank analysis date:** 2/04/11
Conc. units: ug/L (Continued from p. 1) Associated Samples: 2 Code: B

Compound	Blank ID	Sample Identification							
MB 280-51591/1-A		2							
LL	0.187		0.15/10 U						
FFF	0.768		0.87/↓						

Blank extraction date: 1/27/11 **Blank analysis date:** 2/01/11
Conc. units: ug/L Associated Samples: 1 Code: B

Compound	Blank ID	Sample Identification							
MB 280-50800/1-A		1							
XX	0.0393		0.037/9.6U						
LL	0.0702		0.15/						
FFF	0.0724		0.066/↓						

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 25012E2c
SDG #: Sea Coast

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: FB = 1/14/11 EB = 1/26/11

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 1 Code: F

Compound	(FB) Blank ID	(EB) Blk ID	Sample Identification							
(from 280-11628-1)	FB-011411-19	2		1						
CCC	0.0054									
DDD	0.0037									
S	0.0073	0.010								
EEE	0.14	0.70								
AAA	0.060	0.55		0.026 J,B,U						
XX	0.094	0.15		0.037 J						
FFF	0.51	0.87		0.066 J						
LL		0.15		0.15 J						

Blank units: _____ **Associated sample units:** _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 25012 E 2C

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JG
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was a LCS required?

Y (N) N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	LCS/D 280-51591/2,3-A	AAA	145 (38-120)	145 (38-120)	( )	2, MB 280-51591/1-A	J (all det.) / P (L)
		FFF	141 (39-128)	140 (39-128)	( )	↓	↓
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 26, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11959-1

Sample Identification

PZ-129_012611_01
EB_PZ-129_012611

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_PZ-129_012611 was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-1	PZ-129_012611_01 EB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

LDC #: 25012E3b

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/07/11

SDG #: 280-11959-1

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: SW

2nd Reviewer: [signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 2 FB = FB_011411_19 (from 280-11688-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-129_012611_01	11	MB 280-50810/1-A	21		31	
2	EB_PZ-129_012611	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 26, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	Metals
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11959-1

Sample Identification

HAR-09_012611_01
HAR-09_012611_01F
PZ-129_012611_01F
EB_PZ-129_012611F

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020, for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	0.130 mg/L	HAR-09_012611_01
PB (prep blank)	Copper Manganese Selenium	0.00153 mg/L 0.000325 mg/L 0.00336 mg/L	PZ-129_012611_01F EB_PZ-129_012611F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-129_012611_01F	Copper Manganese Selenium	0.00074 mg/L 0.00041 mg/L 0.0088 mg/L	0.00074U mg/L 0.00041U mg/L 0.0088U mg/L
EB_PZ-129_012611F	Copper	0.00065 mg/L	0.00065U mg/L

Sample EB_PZ-129_012611F was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-129_012611F	1/26/11	Calcium Sodium Copper	0.035 mg/L 0.11 mg/L 0.00065 mg/L	PZ-129_012611_01F

Sample FB_011411_19F (from SDG 280-11638-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-129_012611_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-129_012611_01F	Copper	0.00074 mg/L	0.00074U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11959-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11959-1	HAR-09_012611_01 HAR-09_012611_01F PZ-129_012611_01F EB_PZ-129_012611F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11959-1	PZ-129_012611_01F	Copper Manganese Selenium	0.00074U mg/L 0.00041U mg/L 0.0088U mg/L	A	B
280-11959-1	EB_PZ-129_012611F	Copper	0.00065U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11959-1	PZ-129_012611_01F	Copper	0.00074U mg/L	A	F

LDC #: 25012A4 (E) **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-11959-1 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: CR

2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6010B/6020~~/7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	N	Client specified
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	FB= FB_011411_19F ; EB=6 (CSOC: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	HAR-09_012611_01	11		21		31	
~~2~~	~~PZ-129_012611_01~~	12		22		32	
~~3~~	~~EB_PZ-129_012611~~	13		23		33	
4	HAR-09_012611_01F	14		24		34	
5	PZ-129_012611_01F	15		25		35	
6	EB_PZ-129_012611F	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

DC #: CE1C414

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer:

ll circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1,4		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg, Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN, (Sc)
5,6		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN,

LDC #: 25012A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: CR
2nd Reviewer: L

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual.									
Na		0.130		0.65										

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 5,6

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	5	6								
Cu		0.00153		0.00765	0.00074	0.00065								
Mn		0.000325		0.00163	0.00041									
Se		0.00336		0.0168	0.0088									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 25012A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: QR
2nd Reviewer: [signature]

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 5

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level										
Ca	0.059	0.295										
Na	0.098	0.49										

Sampling date: 1/26/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 5

Analyte	Blank ID	Sample Identification										
	6	Action Level	5									
Ca	0.035	0.175										
Na	0.11	0.55										
Cu	0.00065	0.003	0.00074									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 26, 2011

LDC Report Date: March 10, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level IV & V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11959-1

Sample Identification

RS-08_012611_01**
RS-08_012611_36**
FB_RS-08_012611_19**
HAR-09_012611_01
HAR-21_012611_01
RD-51B_012611_01
RD-51C_012611_01
RD-34A_012611_01
PZ-129_012611_01
EB_PZ-129_012611
RS-08_012611_01MS
RS-08_012611_01MSD
RS-08_012611_01DUP
HAR-09_012611_01DUP
RD-51C_012611_01MS
RD-51C_012611_01MSD
PZ-129_012611_01MS
PZ-129_012611_01MSD
PZ-129_012611_01DUP

**Indicates sample underwent Level IV review for Sulfide only.

Introduction

This data review covers 19 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphate, and Sulfate, EPA SW 846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium, EPA Method 314.0 for Perchlorate, EPA Method 9040B for pH, Standard Method 2510B for Specific Conductance, Standard Method 4500-S2-D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Samples indicated by a double asterisk on the front cover underwent a Level IV review. A Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level V criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
HAR-09_012611_01 HAR-09_012611_01DUP	pH	73 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-51B_012611_01	pH	75.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-51C_012611_01	pH	75 hours	48 hours	J (all detects) UJ (all non-detects)	P
PZ-129_012611_01 EB_PZ-129_012611 PZ-129_012611_01MS PZ-129_012611_01MSD PZ-129_012611_01DUP	Hexavalent chromium Dissolved hexavalent chromium	34.75 hours	24 hours	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0592 mg/L	RS-08_012611_01** HAR-09_012611_01 HAR-21_012611_01 RD-51B_012611_01 RD-51C_012611_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RS-08_012611_01**	Ammonia as N	0.088 mg/L	0.088U mg/L
HAR-09_012611_01	Ammonia as N	0.44 mg/L	0.44U mg/L
HAR-21_012611_01	Ammonia as N	0.13 mg/L	0.13U mg/L
RD-51B_012611_01	Ammonia as N	0.14 mg/L	0.14U mg/L
RD-51C_012611_01	Ammonia as N	0.14 mg/L	0.14U mg/L

Sample EB_PZ-129_012611 was identified as an equipment blank. No contaminant concentrations were found in this blank.

Samples FB_RS-08_012611_19** and FB_011411_19 (from SDG 280-11638-1) were identified as field blanks. No contaminant concentrations were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Sulfate	0.37 mg/L	PZ-129_012611_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RS-08_012611_01MS/MSD (PZ-129_012611_01 EB_PZ-129_012611)	Orthophosphate as P	77 (80-120)	-	-	J (all detects) UJ (all non-detects)	A

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable for samples on which a Level IV review was performed.

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-11959-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level VI criteria.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RS-08_012611_01** and RS-08_012611_36** were identified as field duplicates. No contaminant concentrations were detected in any of the samples

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-11959-1	HAR-09_012611_01 RD-51B_012611_01 RD-51C_012611_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11959-1	PZ-129_012611_01 EB_PZ-129_012611	Hexavalent chromium Dissolved hexavalent chromium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-11959-1	PZ-129_012611_01 EB_PZ-129_012611	Orthophosphate as P	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)(Q)
280-11959-1	RS-08_012611_01** RS-08_012611_36** FB_RS-08_012611_19** HAR-09_012611_01 HAR-21_012611_01 RD-51B_012611_01 RD-51C_012611_01 RD-34A_012611_01 PZ-129_012611_01 EB_PZ-129_012611	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-11959-1	RS-08_012611_01**	Ammonia as N	0.088U mg/L	A	B
280-11959-1	HAR-09_012611_01	Ammonia as N	0.44U mg/L	A	B
280-11959-1	HAR-21_012611_01	Ammonia as N	0.13U mg/L	A	B
280-11959-1	RD-51B_012611_01	Ammonia as N	0.14U mg/L	A	B
280-11959-1	RD-51C_012611_01	Ammonia as N	0.14U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

E

LDC #: 25012A6 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-11959-1 Level V IV Page: 1 of 1

Laboratory: Test America Inc. Reviewer: CR

2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (Standard Method 2320B), Ammonia-N (EPA Method 350.2), Bromide, Chloride, Fluoride, Nitrate-N, Nitrite-N, Orthophosphate, Sulfate (EPA Method 300.0), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B),Specific Conductance (Standard Method 2510B), Sulfide (Standard Method 4500-S2-D),Total Dissolved Solids (Standard Method 2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/26/11
IIa.	Initial calibration	A N	Not reviewed for level V
IIb.	Calibration verification	~~SW~~ A	↓
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	SW	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	A N	Not reviewed for level V
VIII.	Overall assessment of data	A	
IX.	Field duplicates	ND	(1,2)
X.	Field blanks	SW	FB=3, FB-011911_19 ; *EB= 10 (SDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: **Level IV for Sulfide only

1	RS-08_012611_01**	11	RS-08_012611_01MS	21		31	
2	RS-08_012611_36**	12	RS-08_012611_01MSD	22		32	
3	FB_RS-08_012611_19**	13	RS-08_012611_01DUP	23		33	
4	HAR-09_012611_01	14	HAR-09_012611_01DUP	24		34	
5	HAR-21_012611_01	15	RD-51C_012611_01MS	25		35	
6	RD-51B_012611_01	16	RD-51C_012611_01MSD	26		36	
7	RD-51C_012611_01	17	PZ-129_012611_01MS	27		37	
8	RD-34A_012611_01	18	PZ-129_012611_01MSD	28		38	
9	PZ-129_012611_01	19	↓ DUP	29		39	
10	EB_PZ-129_012611	20		30		40	

Notes: _____

LDC #: 25012A4

VALIDATION FINDINGS CHECKLIST

Reviewer: CF
2nd Reviewer: LC

Method: Inorganics (EPA Method See Cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients > 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.		✓		
X. Field blanks				
Field blanks were identified in this SDG.	✓	✓		
Target analytes were detected in the field blanks.		✓		

LDC #: 25012A4

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: LW

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		pH TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4) (Sulfide)
2,3		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 (Sulfide)
4		(pH) (TDS) Cl F NO3 NO2 (SO4) PO4 (ALK) CN- (NH3) TKN TOC CR6+ (ClO4) (Turb) (Cond)
5		pH TDS Cl (F) NO3 NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4)
6,7		(pH) TDS Cl F NO3 NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4)
8		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ (ClO4)
9,10		pH TDS (Cl F NO3 NO2 SO4 PO4) ALK CN- NH3 TKN TOC (CR6) ClO4 (Diss Cr6+) (Br)
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
QC: 11		pH TDS (Cl F NO3 NO2 SO4 PO4) ALK CN- NH3 TKN TOC CR6+ ClO4 (Br) (Sulfide)
12		pH TDS (Cl F NO3 NO2 SO4 PO4) ALK CN- NH3 TKN TOC CR6+ ClO4 (Br) (Sulfide)
13		pH TDS (Cl F NO3 NO2 SO4 PO4) ALK CN- NH3 TKN TOC CR6+ ClO4 (Br)
14		(pH) TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 (Turb) (Cond)
15		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ ClO4
16		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ ClO4
17		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC (CR6+) ClO4 (Diss Cr6+)
18		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC (CR6+) ClO4 (Diss Cr6+)
19		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC (CR6+) ClO4 (Diss Cr6+)
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4

Comments: _____

LDC #: 25012E6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: CR
2nd reviewer: V

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:	9040B	7196A				
Parameters:	pH	Cr 6+ (Total & Dissolved)				
Technical holding time:	48 hrs	24 hrs				

Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
4, 14	1/26/11 11:07	1/29/11 12:05	(73 hrs)				J/UJ/P (H)
6	08:39	12:09	(75.5 hrs)				
7	09:~~24~~ 09	12:11	(75.~~25~~ hrs)				
9 (Total & Diss. Cr 6+)	1/26/11 09:00		1/27/11 19:50	(34.75 hrs)			
10	↓ ↓		↓ ↓	↓			
17-19	↓ ↓		↓ ↓	↓			↓

LDC #: 25012A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples: 1, 4-7**

Analyte	Blank ID	Blank ID	Blank Action Limit									
	PB	ICB/CCB (mg/L)		1	~~4~~	~~5~~	~~6~~	7					
NH3-N	0.0592		0.296	0.088	~~0.13~~ 0.44	~~0.14~~ 0.13	0.14	0.14					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 25012A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Inorganics, EPA Method See Cover

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 9

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		No Qualifiers							
Sulfate	0.37	1.85								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25012A4

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: QR
2nd Reviewer:

METHOD: Inorganics, EPA Method see cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of ~~75-125~~ 50-120? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

(Y) N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL ~~IV~~ ONLY:

Y N (N/A) Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	11/12	W	OPO_4-P,	77			9, 10	J/UJ/A (Q)

Comments:

LDC #: 25012B16

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: AR
2nd Reviewer:

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of Sulfide was recalculated. Calibration date: 12/23/10

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (mg/l)	Response	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Sulfide	s1	0.056	0.056	0.999	0.999	Y
		s2	0.11	0.122			
		s3	0.28	0.289			
		s4	0.56	0.563			
		s5	1.13	1.039			
Calibration verification		ICV	0.343	Found (mg/L) 0.369	108	107	
Calibration verification		CCV	0.564	0.572	101	101	
Calibration verification							

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25012A4

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: QR
2nd Reviewer:

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units) mg/L	True / D (units) mg/L	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Sulfide	0.589	0.564	104	104	Y
11	Matrix spike sample		(SSR-SR) 0.552	0.564	98	98	
11/12	Duplicate sample		0.597	0.552	8	8	

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25012A4

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CR
2nd reviewer:

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for _____ reported with a positive detect were recalculated and verified using the following equation:

Concentration =

Recalculation:

Non Detect for Sulfide

#	Sample ID	Analyte	Reported Concentration ( )	Calculated Concentration ( )	Acceptable (Y/N)

Note: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 26, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Diesel Range Organics
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-11959-1

Sample Identification

RS-08_012611_01
HAR-09_012611_01
HAR-21_012611_01
RD-51B_012611_01
RD-51C_012611_01
PZ-129_012611_01
EB_PZ-129_012611

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were EPA Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_PZ-129_012611 was identified as an equipment blank. No diesel range organic contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-1	RS-08_012611_01 HAR-09_012611_01 HAR-21_012611_01 RD-51B_012611_01 RD-51C_012611_01 PZ-129_012611_01 EB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

LDC #: 25012E8 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/07/11
SDG #: 280-11959-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer: [illegible]

METHOD: GC Diesel Range Organics (EPA Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	EB = 7 FB = FB-011411_19 (from 280-11638-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RS-08_012611_01	11	MB 280-50797/1-A	21		31	
2	HAR-09_012611_01	12		22		32	
3	HAR-21_012611_01	13		23		33	
4	RD-51B_012611_01	14		24		34	
5	RD-51C_012611_01	15		25		35	
6	PZ-129_012611_01	16		26		36	
7	EB_PZ-129_012611	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 26, 2011

LDC Report Date: March 9, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11959-1/A1A270446

Sample Identification

RS-08_012611_01
HAR-09_012611_01
HAR-21_012611_01
RD-51B_012611_01
RD-51C_012611_01
PZ-129_012611_01
EB_PZ-129_012611

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_PZ-129_012611 was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_1011411_19 (from SDG 11638-1) was identified as a field blank. No formaldehyde was found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_1011411_19	1/14/11	Formaldehyde	21 ug/L	PZ-129_012611_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-1/A1A270446	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-11959-1/A1A270446

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-1/A1A270446	RS-08_012611_01 HAR-09_012611_01 HAR-21_012611_01 RD-51B_012611_01 RD-51C_012611_01 PZ-129_012611_01 EB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-11959-1/A1A270446

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-11959-1/A1A270446

No Sample Data Qualified in this SDG

LDC #: 25012E71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/07/11
SDG #: 280-11959-1/A1A270446 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VG
2nd Reviewer: [illegible]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW	EB = 7 TB = FB-011411-19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RS-08_012611_01	11	10 28154-MB	21		31	
2	HAR-09_012611_01	12		22		32	
3	HAR-21_012611_01	13		23		33	
4	RD-51B_012611_01	14		24		34	
5	RD-51C_012611_01	15		25		35	
6	PZ-129_012611_01	16		26		36	
7	EB_PZ-129_012611	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25017E71

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: NG
2nd Reviewer: Q

METHOD: __ GC / HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 6 (MD)

Compound	Blank ID	Blank ID	Sample Identification							
from 280-116378-1)	FB-011411_19									
Formaldehyde	21									
CRQL										

Blank units:_____ Associated sample units:_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples:_____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 26, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-11959-1

Sample Identification

RS-08_012611_01
HAR-09_012611_01
HAR-21_012611_01
RD-51B_012611_01
RD-51C_012611_01
PZ-129_012611_01
EB_PZ-129_012611

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077/DV-WV-0048 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method.

Sample EB_PZ-129_012611 was identified as an equipment blank. No hydrazine contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-116384-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Target Compound Identification

Raw data were not reviewed for this SDG.

VIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-11959-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. System Performance

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-11959-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-11959-1	RS-08_012611_01 HAR-09_012611_01 HAR-21_012611_01 RD-51B_012611_01 RD-51C_012611_01 PZ-129_012611_01 EB_PZ-129_012611	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-11959-1

No Sample Data Qualified in this SDG

LDC #: 25012E76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-11959-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: dc
2nd Reviewer: w

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077/DV-WC-0048)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
~~IVa.~~	~~Surrogate recovery~~	~~N~~	Not required.
IVb.	Matrix spike/Matrix spike duplicates	N	Client specified
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	FB= FB_011411_19 ; EB= 7 (SDG: 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RS-08_012611_01	11	MB 280-50861/25	21		31	
2	HAR-09_012611_01	12		22		32	
3	HAR-21_012611_01	13		23		33	
4	RD-51B_012611_01	14		24		34	
5	RD-51C_012611_01	15		25		35	
6	PZ-129_012611_01	16		26		36	
7	EB_PZ-129_012611	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25012F76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1-3		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
4,5		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
6,7		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
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		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 1, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12139-2

Sample Identification

HAR-01_020111_36
FB_HAR-01_020111_19

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample FB_HAR-01_020111_19 was identified as a field blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples HAR-01_020111_36 and HAR-01_020111_01 (from SDG 280-11959-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	HAR-01_020111_01	HAR-01_020111_36			
N-Nitrosodimethylamine	0.0082	0.0088	7 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12139-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-2	HAR-01_020111_36 FB_HAR-01_020111_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12139-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12139-2

No Sample Data Qualified in this SDG

LDC #: 25012F2b

SDG #: 280-12139-2

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/07/11

Page: 1 of 1

Reviewer: VG

2nd Reviewer: CV

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/01/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + HAR-01_020111_01 (from 280-12139-1)
XVII.	Field blanks	ND	FB = 2

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1+	HAR-01_020111_36	11-	MB 280-52373/1-A	21		31	
2-	FB_HAR-01_020111_19	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:25012F2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer: JB

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	HAR-01_020111_01	HAR-01_020111_36		
NDMA	0.0082	0.0088	7	

V:\FIELD DUPLICATES\25012F2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 1, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Perchlorate
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12139-2

Sample Identification

HAR-01_020111_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. LC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12139-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Data Qualification Summary - SDG 280-12139-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12139-2	HAR-01_020111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-12139-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG 280-12139-2

No Sample Data Qualified in this SDG

LDC #: 25012F87 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-12139-2 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: CR

IC 2nd Reviewer: V

METHOD: ~~LC~~/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/1/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	Client specified
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	HAR-01_020111_01	11	MB 280-53518/4	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 2, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12173-2

Sample Identification

FB_RD-38B_020211_19

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample FB_RD-38B_020211_19 was identified as a field blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12173-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-2	FB_RD-38B_020211_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12173-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12173-2

No Sample Data Qualified in this SDG

LDC #: 25012G2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/07/11
SDG #: 280-12173-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer: [signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/02/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = 1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	FB_RD-38B_020211_19	11	MB 280-52373/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 2, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Perchlorate
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12173-2

Sample Identification

PZ-074_020211_01
RD-77_020211_01
PZ-074_020211_01MS
PZ-074_020211_01MSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. LC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12173-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Data Qualification Summary - SDG 280-12173-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12173-2	PZ-074_020211_01 RD-77_020211_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-12173-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG 280-12173-2

No Sample Data Qualified in this SDG

LDC #: 25012G87 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-12173-2 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: JE

2nd Reviewer: A

METHOD: ~~LC~~/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/2/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	A	MS/D
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-074_020211_01	11	MB 280-53518/4	21		31	
2	RD-77_020211_01	12	MB 280-53825/4	22		32	
3	PZ-074_020211_01MS	13		23		33	
4	PZ-074_020211_01MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 4, 2011

LDC Report Date: March 9, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12249-1

Sample Identification

RD-71_020411_01
TB_RD-71_020411
RD-78_020411_01
RD-78_020411_01MS
RD-78_020411_01MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample TB_RD-71_020411 was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-71_020411	2/4/11	Methylene chloride	0.91 ug/L	RD-71_020411_01 RD-78_020411_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12249-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-12249-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12249-1	RD-71_020411_01 TB_RD-71_020411 RD-78_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

LDC #: 25012H1a **VALIDATION COMPLETENESS WORKSHEET** Date: 3/08/11
SDG #: 280-12249-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MG
2nd Reviewer: CJ

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-71_020411_01	11	MB 280-52813/4	21		31	
2	TB_RD-71_020411	12		22		32	
3	RD-78_020411_01	13		23		33	
4	RD-78_020411_01MS	14		24		34	
5	RD-78_020411_01MSD	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VOCs = All

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 25012 H1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 1 3 (ND)

Compound	Blank ID 2	Blank ID	Sample Identification							
Sampling Date	2/04/11									
Methylene chloride E	0.91									
Acetone										
Chloroform										
CRQL										

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples:

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	1,4-Dioxane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12249-1

Sample Identification

RD-71_020411_01
TB_RD-71_020411
RD-78_020411_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Sample TB_RD-71_020411 was identified as a trip blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12249-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-12249-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12249-1	RD-71_020411_01 TB_RD-71_020411 RD-78_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

LDC #: 25012H1b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/08/11
SDG #: 280-12249-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: VG
2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04 /11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-71_020411_01	11	MB 280-53117/16	21		31	
2	TB_RD-71_020411	12		22		32	
3	RD-78_020411_01	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12249-1/IUB0751

Sample Identification

RD-71_020411_01
TB_RD-71_020411
RD-78_020411_01

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_RD-71_020411 was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12249-1/IUB0751	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-12249-1/IUB0751

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12249-1/IUB0751	RD-71_020411_01 TB_RD-71_020411 RD-78_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-12249-1/IUB0751

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-12249-1/IUB0751

No Sample Data Qualified in this SDG

LDC #: 25012H1c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/18/11
SDG #: 280-12249-1/IUB0751 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04 /11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates /Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-71_020411_01	11	IB1089-BLK1	21		31	
2	TB_RD-71_020411	12		22		32	
3	RD-78_020411_01	13		23		33	
4	RD-71-020411_01 Dup	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 4, 2011

LDC Report Date: March 9, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12249-1

Sample Identification

RD-71_020411_01
RD-78_020411_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12249-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12249-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12249-1	RD-71_020411_01 RD-78_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

LDC #: 25012H2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/08/11
SDG #: 280-12249-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SV6
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-71_020411_01	11	MB 280-52217/1-A	21		31	
2	RD-78_020411_01	12	MB 280-52532/1-A	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12249-1

Sample Identification

PZ-141_020411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Samples EB_PZ-141_020311(from SDG 280-12215-1) was identified as equipment blanks. No polychlorinated biphenyl contaminants were found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12249-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-141_020411_01 and PZ-141_020411_03 (from SDG IUB0641) were identified as split samples. No polychlorinated biphenyls were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-12249-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12249-1	PZ-141_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

LDC #: 25012H3b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/08/11
SDG #: 280-12249-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VG
2nd Reviewer: [signature]

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates /split	ND	S = 1+ PZ-141_020411_03 (from 1UB0641)
XV.	Field blanks	ND	FB = FB_011411_19 from 280-11638-1 EB = EB_PZ-141_020311 (280-12215-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-141_020411_01	11	MB 280-52355/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 4, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Dissolved Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12249-1

Sample Identification

PZ-141_020411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020, for Dissolved Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese Zinc	0.000405 mg/L 0.00292 mg/L	All samples in SDG 280-12249-1

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_PZ-141_020411 (from SDG 280-12215-1) was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-141_020411F	2/3/11	Silver	0.000015 mg/L	PZ-141_020411_01

Sample FB_011411_19F (from SDG 280-11638-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-141_020411_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG280-12249-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-141_020411_01 and PZ-141_020411_03F (from SDG IUB0641) were identified as split duplicates. No metals were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-141_020411_01	PZ-141_020411_03F			
Aluminum	0.11	0.040U	93 (≤35)	NQ	-
Boron	0.17	0.17	0 (≤35)	-	-
Arsenic	0.0021	0.0011	62 (≤35)	NQ	-
Barium	0.016	0.014	13 (≤35)	-	-
Calcium	130	120	8 (≤35)	-	-
Cobalt	0.00024	0.00036	40 (≤35)	NQ	-
Copper	0.00070	0.0015	73 (≤35)	NQ	-
Iron	0.16	0.022	152 (≤35)	NQ	-
Magnesium	73	72	1 (≤35)	-	-
Manganese	0.071	0.056	24 (≤35)	-	-
Molybdenum	0.0065	0.0060	8 (≤35)	-	-
Nickel	0.0019	0.0011	53 (≤35)	NQ	-
Potassium	13	12	8 (≤35)	-	-
Selenium	0.0013	0.0014	7 (≤35)	-	-
Sodium	130	120	8 (≤35)	-	-
Vanadium	0.0022	0.0024	9 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Dissolved Metals - Data Qualification Summary - SDG 280-12249-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12249-1	PZ-141_020411_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Dissolved Metals - Laboratory Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dissolved Metals - Field Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

LDC #: 25012H4 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-12249-1 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: CR

Dissolved 2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6010B/6020~~/7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/4/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	N	Client specified
VII.	Duplicate Sample Analysis	N	↓
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	~~Field~~ Split Duplicates	SW	Split = (1, PZ-141_020411_03 (SDG: 280-11806-1) 4
XV	Field Blanks	SW	FB = FB_011411_19F ; EB = PZ-141_020411 (SDG: 280-11638-1) (SDG: 280-12215-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-141_020411_01	11		21		31	
2	~~PZ-141_020411_01F~~	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: ~~Samples appended with "F" were analyzed for dissolved metals~~

DC #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____

LDC #: 25012H4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: dc
2nd Reviewer: w

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: All

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual.									
Mn		0.000405		0.00203										
Zn		0.00292		0.0146										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 25012H4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DR
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Sampling date: 2/3/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 1

Analyte	Blank ID	Sample Identification										
	EB_PZ-141_020411 (SDG: 280-12215-1)	Action Level	No Qualifiers									
Ag	0.000015	0.000075										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25012H4

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 1/14/11 Soil factor applied NA

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 1

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 25012H4

VALIDATION FINDINGS WORKSHEET
Split Duplicates

Reviewer: CB
2nd Reviewer:

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	1	PZ-141_020411_03F		
Aluminum	0.11	0.040U	93	NQ (<5xRL)
Boron	0.17	0.17	0	
Arsenic	0.0021	0.0011	62	NQ (<5xRL)
Barium	0.016	0.014	13	
Calcium	130	120	8	
Cobalt	0.00024	0.00036	40	NQ (<5xRL)
Copper	0.00070	0.0015	73	NQ (<5xRL)
Iron	0.16	0.022	152	NQ (<5xRL)
Magnesium	73	72	1	\
Manganese	0.071	0.056	24	
Molybdenum	0.0065	0.0060	8	
Nickel	0.0019	0.0011	53	NQ (<5xRL)
Potassium	13	12	8	
Selenium	0.0013	0.0014	7	
Sodium	130	120	8	
Vanadium	0.0022	0.0024	9	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 4, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12249-1

Sample Identification

RD-71_020411_01
RD-78_020411_01
PZ-141_020411_01A
PZ-141_020411_01AMS
PZ-141_020411_01AMSD
PZ-141_020411_01ADUP

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW846 Method 7196A for Hexavalent Chromium and Dissolved Hexavalent Chromium and EPA Method 314.0 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Sample EB_PZ-141_020411 (from SDG 280-12215-1) was identified as an equipment blank. No contaminant concentrations were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12249-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples PZ-141_020411_01A and PZ-141_020411_03A (from SDG IUB0641) were identified as field duplicates. No contaminants were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
	PZ-141_020411_01A	PZ-141_020411_03A			
Hexavalent chromium	0.0060	0.0050U	18 (≤35)	-	-

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-12249-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12249-1	RD-71_020411_01 RD-78_020411_01 PZ-141_020411_01A	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

LDC #: 25012H6 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-12249-1 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: CR
2nd Reviewer:

METHOD: (Analyte), Hexavalent Chromium & Dissolved Hexavalent Chromium (EPA SW846 Method 7196A), Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/4/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	Split=(3, PZ-141_020411_03A (SDG: IUB0641))
X	Field blanks	ND	~~EB PZ-141-020311~~; FB= FB_020411_19 (SDG: 280-11638-1) EB= EB_PZ-141_020411 (SDG: 280-12215-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: WATER

1	RD-71_020411_01	11		21		31	
2	RD-78_020411_01	12		22		32	
3	PZ-141_020411_01A	13		23		33	
4	PZ-141_020411_01AMS	14		24		34	
5	PZ-141_020411_01AMSD	15		25		35	
6	PZ-141_020411_01ADUP	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25012H6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,2		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (D,1,SS,Cr^{6+})
3		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (D,1,SS,Cr^{6+})
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC:4		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (D,1,SS,Cr^{6+})
5		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (D,1,SS,Cr^{6+})
6		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (D,1,SS,Cr^{6+})
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC# 25012H6

VALIDATION FINDINGS WORKSHEET
Split Duplicates

Page: 1 of 1
Reviewer: CC
2nd Reviewer: LC

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	3	PZ-141_020411_03A		
Hexavalent Chromium	0.0060	0.0050U	18	

V:\FIELD DUPLICATES\FD_inorganic\25012H6.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Diesel Range Organics
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12249-1

Sample Identification

PZ-141_020411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Samples EB_PZ-141_020311 (from SDG 280-12215-1) was identified as equipment blanks. No diesel range organic contaminants were found in these blanks.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12249-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples PZ-141_020411_01 and PZ-141_020411_03 (from SDG IUB0641) were identified as split samples. No diesel range organics were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ-141_020411_01	PZ-141_020411_03			
Extractable Field Hydrocarbons (C12-C14)	0.074	0.29	119 (≤35)	NQ	-
Extractable Field Hydrocarbons (C21-C30)	0.032	0.24U	153 (≤35)	NQ	-
Extractable Field Hydrocarbons (C8-C30)	0.11	0.46	123 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-12249-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12249-1	PZ-141_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

LDC #: 25012H8 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/08/11
SDG #: 280-12249-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC Diesel Range Organics (EPA Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates / Split	SW	S = 1 + PZ-141_020411_03 (from 1UB0641)
X.	Field blanks	ND	FB = FB_011411_19 from 280-11638-1 EB = EB_PZ-141_020311 (280-12216-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-141_020411_01	11	MB 280-52200/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC#:25012H8 **VALIDATION FINDINGS WORKSHEET**
Field Splits

Page: 1 of 1
Reviewer: [signature]
2nd Reviewer: [signature]

METHOD: GC Extractable Fuel HC (EPA SW 846 Method 8015M)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (mg/L)		(≤35%)	Qualifications
	PZ-141_020411_01	PZ-141_020411_03	RPD	(Parent Only)
EFH (C12-C14)	0.074	0.29	119	NQ
EFH (C21-C30)	0.032	0.24U	153	NQ
EFH (C8-C30)	0.11	0.46	123	NQ

V:\FIELD DUPLICATES\25012H8.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 4, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12249-1/A1B050432

Sample Identification

RD-58A_020411_01
HAR-15_020411_01
RD-49B_020411_01
RD_49C_020411_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12249-1/A1B050432	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-12249-1/A1B050432

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12249-1/A1B050432	RD-58A_020411_01 HAR-15_020411_01 RD-49B_020411_01 RD_49C_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-12249-1/A1B050432

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-12249-1/A1B050432

No Sample Data Qualified in this SDG

LDC #: 25012H71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/08/11

SDG #: 280-1249-1/A1B050432 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: NG

2nd Reviewer: [signature]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	RD-58A_020411_01	11	1038032-MB	21		31	
2	HAR-15_020411_01	12		22		32	
3	RD-49B_020411_01	13		23		33	
4	RD_49C_020411_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	Hydrazines
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12249-1

Sample Identification

HAR-15_020411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12249-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-12249-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12249-1	HAR-15_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-12249-1

No Sample Data Qualified in this SDG

LDC #: 25012H76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-12249-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer:

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/4/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
~~IVa~~	~~Surrogate recovery~~		
IVb.	Matrix spike/Matrix spike duplicates	N	Client specified
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	HAR-15_020411_01	11	MW280-52411/25	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25012H76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		~~Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine~~
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
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		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 4, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12250-1/H1B080407

Sample Identification

PZ-141_020411_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III,. Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks.

Samples EB_PZ-141_020311 (from SDG 280-12223-1) was identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found in these blanks.

Sample FB_011411_19 (from SDG 280-11646-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	1,2,3,7,8-PeCDD	0.70 pg/L	PZ-141_020411_01
		1,2,3,4,7,8-HxCDD	0.42 pg/L	
		1,2,3,7,8,9-HxCDD	0.48 pg/L	
		1,2,3,4,6,7,8-HpCDD	1.3 pg/L	
		OCDD	2.2 pg/L	
		1,2,3,7,8-PeCDF	0.48 pg/L	
		2,3,4,7,8-PeCDF	0.40 pg/L	
		1,2,3,6,7,8-HxCDF	0.50 pg/L	
		2,3,4,6,7,8-HxCDF	0.52 pg/L	
		1,2,3,7,8,9-HxCDF	0.78 pg/L	
		1,2,3,4,6,7,8-HpCDF	0.78 pg/L	
		1,2,3,4,7,8,9-HpCDF	0.74 pg/L	
		OCDF	2.0 pg/L	

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12250-1/H1B080407	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples PZ-141_020411_01 and PZ-141_020411_03 (from SDG IUB0641) were identified as split samples. No polychlorinated dioxins/dibenzofurans were detected in any of the samples with the following exceptions:

Compound	Concentration (pg/L)		RPD (Limits)	Flags	A or P
	PZ-141_020411_01	PZ-141_020411_03			
1,2,3,4,7,8-HxCDD	48U	1.5	188 (≤35)	NQ	-
1,2,3,6,7,8-HxCDD	48U	1.7	186 (≤35)	NQ	-
1,2,3,7,8,9-HxCDD	48U	1	192 (≤35)	NQ	-
1,2,3,4,6,7,8-HpCDD	48U	2.4	181 (≤35)	NQ	-
OCDD	48U	12	120 (≤35)	NQ	-
2,3,4,7,8-PeCDF	48U	0.98	192 (≤35)	NQ	-
1,2,3,4,7,8-HxCDF	48U	1.7	186 (≤35)	NQ	-
1,2,3,6,7,8-HxCDF	48U	1.8	186 (≤35)	NQ	-
2,3,4,6,7,8-HxCDF	48U	1.7	186 (≤35)	NQ	-
1,2,3,4,6,7,8-HpCDF	48U	2.4	181 (≤35)	NQ	-
1,2,3,4,7,8,9-HpCDF	48U	1.4	189 (≤35)	NQ	-
OCDF	95U	4	184 (≤35)	NQ	-
T. Total HxCDD	Not Reported	4.2	200 (≤35)	Not calculable	-
U. Total HpCDD	Not Reported	3.7	200 (≤35)	Not calculable	-
W. Total PeCDF	Not Reported	0.98	200 (≤35)	Not calculable	-
X. Total HxCDF	Not Reported	5.2	200 (≤35)	Not calculable	-
Y. Total HpCDF	Not Reported	3.8	200 (≤35)	Not calculable	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-12250-1/H1B080407

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12250-1/H1B080407	PZ-141_020411_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XI)

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-12250-1/H1B080407

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-12250-1/H1B080407

No Sample Data Qualified in this SDG

LDC #: 25012I21 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/08/11
SDG #: 280-12250-1/H1B080407 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: NG
2nd Reviewer: [illegible]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/04/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates/Split	SW	S = 1 + PZ-141_020411_03 (from 1HB0641)
XV.	Field blanks	SW	FB = FB_011411_19 (from 280-11646-1) EB: PZ-141_020311 (280-12223-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-141_020411_01	11	1040169-MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes: _____

LDC #: 25012 I 21

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: Q

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

(Y) N N/A Were field blanks identified in this SDG?
Blank units: pg/L **Associated sample units:** pg/L
Sampling date: 1/14/11
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 1 (ND)

Compound	Blank ID	Sample Identification								
(from 280-11646-1)	FB_011411_19									
B	0.70									
C	0.42									
E	0.48									
F	1.3									
G	2.2									
I	0.48									
CRQL J	0.40									

Blank units: **Associated sample units:**
Sampling date:
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples:

Compound	Blank ID	Sample Identification								
V	V									
K	0.50									
M	0.52									
N	0.78									
O	0.78									
P	0.74									
Q	2.0									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#:25012I21

VALIDATION FINDINGS WORKSHEET
Field Splits

Page: 1 of 1
Reviewer: JC
2nd Reviewer: JC

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (pg/L)		(≤35%)	Qualifications
	PZ-141_020411_01	PZ-141_020411_03	RPD	(Parent Only)
1,2,3,4,7,8-HxCDD	48U	1.5	188	NQ
1,2,3,6,7,8-HxCDD	48U	1.7	186	NQ
1,2,3,7,8,9-HxCDD	48U	1	192	NQ
1,2,3,4,6,7,8-HpCDD	48U	2.4	181	NQ
OCDD	48U	12	120	NQ
2,3,4,7,8-PeCDF	48U	0.98	192	NQ
1,2,3,4,7,8-HxCDF	48U	1.7	186	NQ
1,2,3,6,7,8-HxCDF	48U	1.8	186	NQ
2,3,4,6,7,8-HxCDF	48U	1.7	186	NQ
1,2,3,4,6,7,8-HpCDF	48U	2.4	181	NQ
1,2,3,4,7,8,9-HpCDF	48U	1.4	189	NQ
OCDF	95U	4	184	NQ
T. Total HxCDD	Not Reported	4.2	200	NC
U. Total HpCDD	Not Reported	3.7	200	NC
W. Total PeCDF	Not Reported	0.98	200	NC
X. Total HxCDF	Not Reported	5.2	200	NC
Y. Total HpCDF	Not Reported	3.8	200	NC

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on March 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25027:

SDG #	Fraction
280-11905-1/ S101280-8991 280-11967-1/ S101293-8992 IUB0488, IUA1434 280-12176-1/ IUB0617/ A1B030458 280-12282-1/ IUB0958/ A1B080539	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, Formaldehyde, Hydrazine, Gross Alpha & Beta, Gamma Spectroscopy, Strontium-90, Tritium, Isotopic Uranium

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Client Select IV

LDC #25027 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		NDMA (1625)		Pest (8081A)		PCB (8082)		Metals (SW846)		Diss. Metals (SW846)		Herbs (8151A)		DRO (8015M)		Formal-dehyde (8315)		1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
C	IUB0488	03/02/11	03/23/11	-	-	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
D	IUA1434	03/02/11	03/23/11	1	0	1	0	-	-	1	0	3	0	-	-	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-				
E	280-12176-1/ IUB0617/ A1B030458	03/02/11	03/23/11	11	0	11	0	2	0	7	0	7	0	-	-	2	0	1	0	3	0	-	-	7	0	7	0	5	0	4	0	4	0				
F	280-12282-1/ IUB0958/ A1B080539	03/02/11	03/23/11	-	-	-	-	1	0	-	-	1	0	-	-	-	-	-	-	-	-	0	0	-	-	1	0	1	0	1	0	1	0				
F	280-12282-1/ IUB0958/ A1B080539	03/02/11	03/23/11	-	-	-	-	4	0	-	-	0	0	-	-	-	-	-	-	-	-	4	0	-	-	0	0	0	0	0	0	0	0				
Total	A/PG			12	0	12	0	7	0	9	0	11	0	1	0	2	0	2	0	4	0	4	0	7	0	8	0	6	0	5	0	5	0	0	0	0	95

Client Select IV

LDC #25027 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		NH_3-N NO_2-N O-PO_4 (350.1)		Br NO_2-N O-PO_4		Cl SO_4 (300.0)		F NO_3-N (300.0)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		Gross α & β (900.0)		Gamma (901.1)		Sr-90 (905.0)		Tritium (906.0)		Iso. Uranium (908.0)					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
A	280-11905-1/ S101280-8991	03/02/11	03/23/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	4	0	4	0	4	0	4	0				
B	280-11967-1/ S101293-8992	03/02/11	03/23/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2	0	2	0	2	0	2	0				
D	IUA1434	03/02/11	03/23/11	-	-	1	0	-	-	-	-	1	0	-	-	1	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
E	280-12176-1	03/02/11	03/23/11	1	0	5	0	2	0	3	0	7	0	1	0	6	0	5	0	1	0	1	0	-	-	-	-	-	-	-	-	-	-				
Total	A/PG			1	0	6	0	2	0	3	0	8	0	1	0	7	0	6	0	1	0	1	0	6	0	6	0	6	0	6	0	6	0	0	0	0	66

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 25, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Gross Alpha & Beta
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Services
Sample Delivery Group (SDG):	280-11905-1/S101280-8991

Sample Identification

RD-33C_012511_01D
RD-34B_012511_01D
RD-33C_012511_01DDUP
RD-33C_012511_01P
RD-34B_012511_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) analysis was not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11905-1/S101280-8991	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Data Qualification Summary - SDG 280-11905-1/S101280-8991

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11905-1/S101280-8991	RD-33C_012511_01D RD-34B_012511_01D RD-33C_012511_01P RD-34B_012511_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

LDC #: 25027A36

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/7/11

SDG #: 280-11905-1/S101280-8991

Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica)

Reviewer: CR

2nd Reviewer: V

METHOD: ~~Alpha Spectroscopy~~ (Method 900.0) Gross Alpha & Gross Beta

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	Dup
IVa.	Laboratory control samples	A	LCS
~~V.~~	~~Sample specific chemical recovery~~		
VI.	~~Radionuclide Quantitation & Implied~~ Detection ~~Limits~~ MDA	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-33C_012511_01 D	11		21		31	
2	RD-34B_012511_01 D	12		22		32	
3	RD-33C_012511_01DUP B	13		23		33	
4	(MI) P	14		24		34	
5	(M2) P	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 25, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	Tritium
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Services
Sample Delivery Group (SDG):	280-11905-1/S101280-8991

Sample Identification

RD-33C_012511_01
RD-34B_012511_01
RD-33C_012511_01DUP

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 906.0 for Tritium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11905-1/S101280-8991	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Tritium - Data Qualification Summary - SDG 280-11905-1/S101280-8991

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11905-1/S101280-8991	RD-33C_012511_01 RD-34B_012511_01	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Tritium - Laboratory Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Tritium - Field Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

LDC #: 25027A34 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-11905-1/S101280-8991 Level V Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer:

METHOD: Tritium (EPA Method 906.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-33C_012511_01	11		21		31	
2	RD-34B_012511_01	12		22		32	
3	RD-33C_012511_01DUP	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 25, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Gamma Spectroscopy

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Services

Sample Delivery Group (SDG): 280-11905-1/S101280-8991

Sample Identification

RD-33C_012511_01D
RD-34B_012511_01D
RD-33C_012511_01DDUP
RD-33C_012511_01P
RD-34B_012511_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per EPA Method 901.1 for Gamma Spectroscopy.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11905-1/S101280-8991	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gamma Spectroscopy - Data Qualification Summary - SDG 280-11905-1/S101280-8991

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11905-1/S101280-8991	RD-33C_012511_01D RD-34B_012511_01D RD-33C_012511_01P RD-34B_012511_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Gamma Spectroscopy - Laboratory Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Gamma Spectroscopy - Field Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

LDC #: 25027A35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-11905-1/S101280-8991 Level V Page: 1 of 1
Laboratory : EBERLINE Services Reviewer: CR
TestAmerica 2nd Reviewer: L

METHOD: Gamma Spectroscopy (EPA Method 901.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	Dup
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-33C_012511_01 D	11		21		31	
2	RD-34B_012511_01 D	12		22		32	
3	RD-33C_012511_01DUP D	13		23		33	
4	(MI) P	14		24		34	
5	(M2) P	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 25, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Isotopic Uranium

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Services

Sample Delivery Group (SDG): 280-11905-1/S101280-8991

Sample Identification

RD-33C_012511_01D
RD-34B_012511_01D
RD-33C_012511_01DDUP
RD-33C_012511_01P
RD-34B_012511_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per EPA Method 908.0 for Isotopic Uranium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Tracer Recovery

All tracer recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11905-1/S101280-8991	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Data Qualification Summary - SDG 280-11905-1/S101280-8991

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11905-1/S101280-8991	RD-33C_012511_01D RD-34B_012511_01D RD-33C_012511_01P RD-34B_012511_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Field Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

LDC #: 25027A59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-11905-1/S101280-8991 Level V Page: 1 of 1
Laboratory: EBERLINE Services Reviewer: SC
TestAmerica 2nd Reviewer: [illegible]

METHOD: Isotopic Uranium (Method 908.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	Dup
IVa.	Laboratory control samples	A	LCS
V.	Tracer Recovery	A	
VI.	Minimum Detectable Activity (MDA)	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-33C_012511_01 D	11		21		31	
2	RD-34B_012511_01 D	12		22		32	
3	RD-33C_012511_01DUP	13		23		33	
4	(A1) R	14		24		34	
5	(A2) P	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr

Collection Date: January 25, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Strontium-90

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Services

Sample Delivery Group (SDG): 280-11905-1/S101280-8991

Sample Identification

RD-33C_012511_01D
RD-34B_012511_01D
RD-33C_012511_01DDUP
RD-33C_012511_01P
RD-34B_012511_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field duplicates were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Carrier Recovery

All carrier recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11905-1/S101280-8991	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Strontium-90 - Data Qualification Summary - SDG 280-11905-1/S101280-8991

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11905-1/S101280-8991	RD-33C_012511_01D RD-34B_012511_01D RD-33C_012511_01P RD-34B_012511_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-11905-1/S101280-8991

No Sample Data Qualified in this SDG

LDC #: 25027A61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-11905-1/S101280-8991 Level V Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer:

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/25/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVb.	Laboratory control samples	A	LCS
IVc.	Carrier recovery	A	
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-33C_012511_01D	11		21		31	
2	RD-34B_012511_01D	12		22		32	
3	RD-33C_012511_01DUP	13		23		33	
4	(MW1) P	14		24		34	
5	(MW2) P	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 26, 2011

LDC Report Date: March 14, 2011

Matrix: Water

Parameters: Gross Alpha & Beta

Validation Level: Level V

Laboratory: TestAmerica Laboratories, Inc./Eberline Services

Sample Delivery Group (SDG): 280-11967-1/S101293-8992

Sample Identification

RD-34A_012611_01D
RD-34A_012611_01DDUP
RD-34A_012611_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 900.0 for Gross Alpha and Beta Radioactivity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) analysis was not required by the method.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11967-1/S101293-8992	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Data Qualification Summary - SDG 280-11967-1/S101293-8992

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11967-1/S101293-8992	RD-34A_012611_01D RD-34A_012611_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Laboratory Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Gross Alpha & Beta - Field Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

LDC #: 25027B36

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3-7-11

SDG #: 280-11967-1/S101293-8992

Page: 1 of 1

Laboratory: EBERLINE Services (Test America)

Reviewer: CR

2nd Reviewer:

METHOD: ~~Alpha Spectroscopy (Method 900.0)~~ Gross Alpha & Gross Beta

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVa.	Laboratory control samples	A	LCS
~~V.~~	~~Sample specific chemical recovery~~		
VI.	~~Radionuclide Quantitation & Implied Detection Limits~~ MDA	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-34A_012611_01D	11		21		31	
2	RD-34A_012611_01DUP	12		22		32	
3	(All) P	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 26, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	Tritium
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Services
Sample Delivery Group (SDG):	280-11967-1/S101293-8992

Sample Identification

RD-34A_012611_01
RD-34A_012611_01DUP

Introduction

This data review covers 2 water samples listed on the cover sheet. The analyses were per EPA Method 906.0 for Tritium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11967-1/S101293-8992	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Tritium - Data Qualification Summary - SDG 280-11967-1/S101293-8992

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11967-1/S101293-8992	RD-34A_012611_01	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr
Tritium - Laboratory Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Tritium - Field Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

LDC #: 25027B34 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-11967-1/S101293-8992 Level V Page: 1 of 1
Laboratory: EBERLINE Services Reviewer: CR
TestAmerica 2nd Reviewer:

METHOD: Tritium (EPA Method 906.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	D,D
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-34A_012611_01	11		21		31	
2	RD-34A_012611_01DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 26, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Gamma Spectroscopy
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Services
Sample Delivery Group (SDG):	280-11967-1/S101293-8992

Sample Identification

RD-34A_012611_01D
RD-34A_012611_01DDUP
RD-34A_012611_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 901.1 for Gamma Spectroscopy.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the isotope was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Minimum Detectable Activity

All minimum detectable activities met required detection limits.

VIII. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11967-1/S101293-8992	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Gamma Spectroscopy - Data Qualification Summary - SDG 280-11967-1/S101293-8992

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11967-1/S101293-8992	RD-34A_012611_01D RD-34A_012611_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Gamma Spectroscopy - Laboratory Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Gamma Spectroscopy - Field Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

LDC #: 25027B35 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-11967-1/S101293-8992 Level V Page: 1 of 1
Laboratory: EBERLINE Services Reviewer: CR
TestAmerica 2nd Reviewer: E

METHOD: Gamma Spectroscopy (EPA Method 901.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	D,P
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-34A_012611_01D	11		21		31	
2	RD-34A_012611_01DUP	12		22		32	
3	(A1) P	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P= particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 26, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Isotopic Uranium
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Services
Sample Delivery Group (SDG):	280-11967-1/S101293-8992

Sample Identification

RD-34A_012611_01D
RD-34A_012611_01DDUP
RD-34A_012611_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 908.0 for Isotopic Uranium.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field blanks were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Tracer Recovery

All tracer recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11967-1/S101293-8992	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Data Qualification Summary - SDG 280-11967-1/S101293-8992

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11967-1/S101293-8992	RD-34A_012611_01D RD-34A_012611_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Laboratory Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Isotopic Uranium - Field Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

LDC #: 25027B59 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-7-11

SDG #: 280-11967-1/S101293-8992 Level V Page: 1 of 1

Laboratory: EBERLINE Services (TestAmerica) Reviewer: CR

2nd Reviewer:

METHOD: Isotopic Uranium (Method 908.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	DUP
IVa.	Laboratory control samples	A	LCS
V.	Tracer Recovery	A	
VI.	Minimum Detectable Activity (MDA)	A	
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	RD-34A_012611_01D	11		21		31	
2	RD-34A_012611_01DUP	12		22		32	
3	(MS)P	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr
Collection Date:	January 26, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Strontium-90
Validation Level:	Level V
Laboratory:	TestAmerica Laboratories, Inc./Eberline Services
Sample Delivery Group (SDG):	280-11967-1/S101293-8992

Sample Identification

RD-34A_012611_01D
RD-34A_012611_01DDUP
RD-34A_012611_01P

Samples ending in "D" were reported for dissolved only
Samples ending in "P" were reported for particulate only

Introduction

This data review covers 3 water samples listed on the cover sheet. The analyses were per EPA Method 905.0 for Strontium-90.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Multi Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual (July 2004), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the isotope was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. Blank results contained less than the minimum detectable activity (MDA).

No field duplicates were identified in this SDG.

V. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Carrier Recovery

All carrier recoveries were within validation criteria.

VIII. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

IX. Sample Result Verification

All isotopes reported below the RL and above the MDA were qualified as follows:

Sample	Isotope	Flag	A or P
All samples in SDG 280-11967-1/S101293-8992	All isotopes reported below the RL and above the MDA.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
Strontium-90 - Data Qualification Summary - SDG 280-11967-1/S101293-8992

SDG	Sample	Isotope	Flag	A or P	Reason (Code)
280-11967-1/S101293-8992	RD-34A_012611_01D RD-34A_012611_01P	All isotopes reported below the RL and above the MDA.	J (all detects)	A	Sample result verification (*IX)

Boeing SSFL GW 1st Qtr
Strontium-90 - Laboratory Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
Strontium-90 - Field Blank Data Qualification Summary - SDG 280-11967-1/S101293-8992

No Sample Data Qualified in this SDG

LDC #: 25027B61 **VALIDATION COMPLETENESS WORKSHEET** Date: 3-7-11

SDG #: 280-11967-1/S101293-8992 Level V Page: 1 of 1

Laboratory: EBERLINE Services Reviewer: CR

TestAmerica 2nd Reviewer:

METHOD: Strontium-90 (EPA Method 905.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/26/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	D,P
IVb.	Laboratory control samples	A	LCS
IVc.	Carrier recovery	A	
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
XIV	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-34A_012611_01D	11		21		31	
2	RD-34A_012611_01DUP	12		22		32	
3	(XX) P	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: D=dissolved P=particulate

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 11, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0488

Sample Identification

PZ-060_012811_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. Cooler temperatures for all samples were reported at 7.8°C upon receipt by the laboratory.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
2/7/11	Methapyrilene	31.4	All samples in SDG IUB0488	J (all detects) UJ (all non-detects)	A

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
11B0556-BLK1	2/4/11	N-Nitrosodimethylamine	6.8 ug/L	All samples in SDG IUB0488

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Sample EB_PZ-060_12811 (from SDG 280-12062-1) was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Samples FB_PZ-060_012811_19 (from SDG 280-12062-1) and FB_011411_19 (from SDG 280-11638-1) was identified as field blanks. No semivolatile contaminants were found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0488	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples PZ-060_012811_01 (from SDG 280-11787-1) and PZ-060_012811_03 were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ-060_012811_01	PZ-060_012811_03			
Bis(2-ethylhexyl)phthalate	0.96	9.4U	163 (≤35)	NQ	-
Diethyl phthalate	1.1	5.0	128 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG IUB0488

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0488	PZ-060_012811_03	Methapyrilene	J (all detects)	A	Continuing calibration (%D) (C)
IUB0488	PZ-060_012811_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG IUB0488

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG IUB0488

No Sample Data Qualified in this SDG

LDC #: 25027C2a
SDG #: IUB0488
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level IV

Date: 3/08/11
Page: 1 of 1
Reviewer: VV
2nd Reviewer: CL

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11 cooler temp = 7.8°C (Text)
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%RSD ≤ 30% ✓
IV.	Continuing calibration/ICV	SW	CCV/ICV ≤ 25%
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 1 + PZ-060_012811_01 (from 280-12062-1)
XVII.	Field blanks	ND	EB = EB_PZ-060_012811 FB = FB_PZ-060_012811_19 ✓ FB = FB_011411_19 (from 280-11678-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-060_012811_03	11	11B0556-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25027 C2a

VALIDATION FINDINGS CHECKLIST

Reviewer: JVC
2nd Reviewer: CV

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?				
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 25027 C29

VALIDATION FINDINGS CHECKLIST

Reviewer: JV
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT. O, O', O''- Triethylphosphorothioate
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU Hexachloropropene
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV. N-Nitrosodi-n-butylamine
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW. 4-Aminobiphenyl

XXX. Pentachloronitrobenzene
YYY. Pronamide
ZZZ. 4-Nitroquinoline-1-oxide
AAAA. Methapyrilene
BBBB. 3,3'-Dimethylbenzidine
CCCC. Isosafrole
DDDD. 1,4-Naphthoquinone

Notes: * = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 25027C2a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: NG
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours of sample analysis for each instrument?
(Y) N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y (N) N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	2/07/11	11Feb07 (A1Std050A)	AAAA	31.4.		All	J/nJ/A (c)

LDC #: 25027 C2a

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: AG
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 2/04/11 **Blank analysis date:** 2/07/11 all sample

Conc. units: ug/L Associated Samples: (1) (ND)

Compound	Blank ID	Sample Identification							
	11B0556-BLK1								
000	6.8								

Blank extraction date: _____ **Blank analysis date:** _____

Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC#:25027C2a **VALIDATION FINDINGS WORKSHEET**
Field Split

Reviewer: NC
2nd Reviewer: [signature]

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270C)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤35)	Qualifications
	PZ-060_012811_01	PZ-060_012811_03	RPD	(Parent Only)
Bis(2-ethylhexyl)phthalate	0.96	9.4U	163	NQ
Diethyl phthalate	1.1	5.0	128	NQ

V:\FIELD DUPLICATES\25027C2a(FS).wpd

LDC #: 25027 C2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: 9

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL MS71	2/4/2011	Phenol (IS1)	1.889	1.889	1.869	1.869	8.52	8.52
			Naphthalene (IS2)	1.083	1.083	1.039	1.039	9.61	9.61
			Diethyl phthalate (IS3)	1.421	1.421	1.371	1.371	9.34	9.34
			Hexachlorobenzene (IS4)	0.237	0.237	0.227	0.227	9.23	9.30
			Di-n-octyl phthalate (IS5)	1.594	1.594	1.535	1.535	2.08	2.08
			Benzo(g,h,i)perylene (IS6)	0.827	0.827	0.873	0.873	12.98	12.98

Conc IS/Cpd	Area cpd	Area IS
40/50	113869	48218
40/50	300578	222081
40/50	270291	152191
40/50	84749	286488
40/50	503471	252724
40/50	282481	273390

Conc	Phenol	Naphthalene	Diethyl phthalate	Hexachlorobe	Di-n-octylphtha	Benzo(g,h,i)per
5.00	1.721	1.122	1.477	0.248	1.516	0.968
10.00	1.701	1.092	1.468	0.240	1.504	0.888
50.00	1.889	1.083	1.421	0.237	1.594	0.827
80.00	1.898	1.021	1.354	0.217	1.525	0.801
120.00	2.000	0.960	1.256	0.206	1.563	0.789
160.00	2.130	0.859	1.146	0.195	1.528	0.761
2.00	1.744	1.135	1.476	0.247	1.515	1.075
X =	1.869	1.039	1.371	0.227	1.535	0.873
S =	0.159	0.100	0.128	0.021	0.032	0.113

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25027C2a

VALIDATION FINDINGS WORSHEET
Continuing Calibration Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
Ax = Area of compound
Cx = Concentration of compound
RRF = continuing calibration RRF
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	SSTD050A MS71	02/07/11	Phenol (IS1)	1.869	1.849	1.849	1.1	1.1
			Naphthalene (IS2)	1.039	1.104	1.104	6.3	6.3
			Diethyl phthalate (IS3)	1.371	1.388	1.388	1.2	1.2
			Hexachlorobenzene (IS4)	0.227	0.235	0.235	3.5	3.5
			Di-n-octyl phthalate (IS5)	1.535	1.324	1.324	13.7	13.7
			Benzo(g,h,i)perylene (IS6)	0.873	0.955	0.955	9.4	9.4
2								

Compound (IS)	Concentration (IS/Cpd)	Area Cpd	Area IS	Area Cpd	Area IS
Phenol (IS1)	40/50	82266	35597		
Naphthalene (IS2)	40/50	221584	160511		
Diethyl phthalate (IS3)	40/50	179026	103159		
Hexachlorobenzene (IS4)	40/50	57932	196997		
Di-n-octyl phthalate (IS5)	40/50	352320	212851		
Benzo(g,h,i)perylene (IS6)	40/50	273297	228885		

LDC #: 25027C 2A

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JM
2nd reviewer: N

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	50	37.7	75	75	0
2-Fluorobiphenyl	↓	41.5	83	83	
Terphenyl-d14	↓	35.3	71	71	
Phenol-d5	100	80.5	80	80	
2-Fluorophenol	↓	68.7	69	69	
2,4,6-Tribromophenol	↓	88.6	89	89	✓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID: _____

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 25027 C 2a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JMB
2nd Reviewer: [signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 11B0556-BS1 /BSD1

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	100	100	72.8	72.9	73	73	73	73	0.1	0.1
N-Nitroso-di-n-propylamine			85.0	84.2	85	85	84	84	1	1
4-Chloro-3-methylphenol			87.2	86.0	87	87	86	86	1	1
Acenaphthene			93.9	92.5	94	94	93	93	1	1
~~Pentachlorophenol~~										
Pyrene			91.2	89.0	91	91	89	89	✓	✓

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25027C2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JK
2nd reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_t = Volume of the concentrated extract in microliters (ul)

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #1, Diethylphthalate

Conc. = $\frac{(10122)(40)(2\ ml)(1000)(\ )}{(112213)(1.371)(1000\ ml)(\ )(\ )}$

= 5.26 ng/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 28, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Chlorinated Pesticides
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0488

Sample Identification

PZ-060_012811_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. Cooler temperatures for all samples were reported at 7.8°C upon receipt by the laboratory.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0% .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB_PZ-060_012811 (from SDG 280-12062-1) was identified as an equipment blank. No chlorinated pesticide contaminants were found in this blank.

Samples FB_PZ-060_012811_19 (from SDG 280-12062-1) and FB_011411_19 (from SDG 280-11638-1) were identified as field blanks. No chlorinated pesticide contaminants were found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0488	All compounds reported below the RL.	J (all detects)	A

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples PZ-060_012811_03 and PZ-060-012811_01 (from SDG 280-12062-1) were identified as split samples. No chlorinated pesticides were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG IUB0488

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0488	PZ-060_012811_03	All compounds reported below the RL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG IUB0488

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG IUB0488

No Sample Data Qualified in this SDG

LDC #: 25027C3a
SDG #: IUB0488
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level IV

Date: 3/08/11
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [signature]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/28/11 cooler temp = 7.8°C (Text)
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	%RSD ≤ 20% ✓
IV.	Continuing calibration/ICV	A	ccv/ccv ≤ 20%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	
XII.	Compound quantitation and reported CRQLs	A	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates /Split	ND	Split = 1 + PZ-060_012811_01 (from 280-12062-1)
XV.	Field blanks	ND	EB = EB_PZ-060_012811 FB = FB_PZ-060_012811_19 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-060_012811_03	11	11B0596-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25027 C3A

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: [illegible]

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	✓			
Did the initial calibration meet the curve fit acceptance criteria?	✓			
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?		✓		
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ____%D or ___✓%R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recovieries 80-120%?	✓			
Were all the retention times within the acceptance windows?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	✓			
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates ✓ Split				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	MM	✓		
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC#: 25027 C 3A

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Response	(X) Concentration	(X2) Concentration	CF
1/21/2011	GC54	4,4'-DDT	1	2482.4	2	0	1241
			2	13507.2	10	100	1351
	Channel B		3	32671.3	25	625	1307
			4	67713.9	50	2500	1354
			5	141124.5	100	10000	1411
			6	303179.6	200	40000	1516
			7	465206.6	300	90000	1551
						Ave	1390

Regression Output	*Calculated*		*Reported*	
Constant	c =	-1791.7039	c =	*-1792.47*
Std Err of Y Est				
Coefficient of Determination (r^2)	r^ 2	0.9998486	r^ 2	*0.999849*
Degrees of Freedom				
	a =	b =	a =	b =
X Coefficient(s)	1399.1079	0.5393	*1399.1174*	*0.5393*
Std Err of Coef.				
Correlation Coefficient		0.999924		

LDC #: 25027 C3a

VALIDATION FINDINGS WORKSHEET

Initial Calibration Calculation Verification

Reviewer: JC
2nd Reviewer:

METHOD: GC Pesticides (EPA SW 846 Method 8081)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where
A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,
A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound	Reported RRF (100 std)	Recalculated RRF (100 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL GC54	1/21/2011	Endosulfan I (CLP1)	2579.28	2579.28	2404.95	2404.95	4.94	4.94
			4,4'-DDT (CLP1)	2139.83	2139.83	1849.25	1849.25	10.64	10.64
			Endosulfan I (CLP2)	1763.99	1763.99	1794.64	1794.64	2.58	2.58
			4,4'-DDT (CLP2)	see r2 calc					

	Response				
Conc	Endosulfan I 1	DDT 1	Endosulfan I 1	DDT 1	
2	4618.48	3151.60	3570.52		r2
10	24749.31	17723.40	18895.14		
25	56428.37	42809.78	43931.73		
50	116079.94	89377.68	88143.63		
100	238247.43	190306.86	176399.35		
200	501996.78	410749.17	357665.17		
300	773785.44	641948.02	544563.71		

	CF			
	CLP1		CLP2	
	Endusulfan I	4,4'-DDT	Endusulfan I	4,4'-DDT
	2309	1576	1785	
	2475	1772	1890	
	2257	1712	1757	
	2322	1788	1763	
	2382	1903	1764	
	2510	2054	1788	
	2579	2140	1815	
S =	2405	1849	1795	#DIV/0!
X =	119	197	46	#DIV/0!

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25027 C3a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: VR
2nd Reviewer: [signature]

METHOD: GC Pesticides (EPA SW 846 Method 8081)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound,
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Average RRF Conc	Reported RRF (CC)	Recalculated RRF (CC)	Reported % R	Recalculated %R
1	B04A008	2/4/2011	Endosulfan I (CLP1)	100.00	100.9	100.9	100.9	100.9
			4,4'-DDT (CLP1)	100.00	101.1	101.1	101.1	101.1
			Endosulfan I (CLP2)	100.00	99.3	99.3	99.3	99.3
			4,4'-DDT (CLP2)	100.00	94.2	94.2	94.2	94.2
2								

CCV1

Compound	CF	Response
Endosulfan I (CLP1)	2405	242732.22
4,4'-DDT (CLP1)	1849	186937.02
Endosulfan I (CLP2)	1794.6	178148.5
4,4'-DDT (CLP2)		

Y = a (X^2) + b X + c

Calculation

CCV1	Y (Area)	b	a	c	Conc. X	T = Y-c	(b^2 - 4aT)	( )^ 1/2	(-b -())/ 2a
DDT 2	134855.7	0.53927	1399.1174	-1792.4720	94.2440	-136648.172	2252290.597	1500.76334	-2688.70951

LDC #: 25027 C34

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: 4

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene	chan A	250	110.95	44	44	0
Decachlorobiphenyl	"	"	170.25	57	57	✓
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 25027 C3L

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: OVC
2nd Reviewer: R

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = I LCS - LCSD I * 2/(LCS + LCSD) LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: ~~HB50~~ 11B0596-BS1/BSD1

Compound	Spike Added (ng/L)		Spiked Sample Concentration (ng/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
gamma-BHC	0.500	0.500	0.411	0.388	82	82	78	78	6	6
4,4'-DDT	1	1	0.468	0.463	94	94	93	93	1	1
Aroclor 1260										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25027 C39

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVC
2nd reviewer: [signature]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. _____ MD

Conc. = _____

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 14, 2011
LDC Report Date:	March 22, 2011
Matrix:	Water
Parameters:	Volatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUA1434

Sample Identification

RD-58A_011411_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUA1434	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-58A_011411_01 (from SDG 280-11638-1) and RD-58A_011411_03 were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RD-58A_011411_01	RD-58A_011411_03			
cis-1,2-Dichloroethene	2.2	2.6	17 (≤35)	-	-
Methylene chloride	0.40	5.0U	170 (≤35)	NQ	-
Trichloroethene	110	120	9 (≤35)	-	-
Trichlorotrifluoromethane	1.9	2.0	5 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG IUA1434

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUA1434	RD-58A_011411_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

LDC #: 25027D1a

VALIDATION COMPLETENESS WORKSHEET

SDG #: IUA1434

Level V

Laboratory: Test America, Inc.

Date: 3/6a/11

Page: 1 of 1

Reviewer: VG

2nd Reviewer: Q

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 1 + RD-58_011411-01 from 280-11638-1
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-58_011411_03	11	IIA2522-Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:25027D1a

VALIDATION FINDINGS WORKSHEET
Field Split

Reviewer: MV
2nd Reviewer: [illegible]

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent Only)
	RD-58A_011411_01	RD-58A_011411_ 03		
cis-1,2-Dichloroethene	2.2	2.6	17	
Methylene chloride	0.40	5.0U	170	NQ
Trichloroethene	110	120	9	
Trichlorotrifluoromethane	1.9	2.0	5	

V:\FIELD DUPLICATES\25027D1a(FS).wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: March 9, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUA1434

Sample Identification

RD-58A_011411_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUA1434	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-58A_011411_01 (from SDG 280-11638-1) and RD-58A_011411_03 were identified as split samples. No 1,4-Dioxane was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG IUA1434

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUA1434	RD-58A_011411_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

LDC #: 25027D1b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/09/11
SDG #: IUA1434 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: VG
2nd Reviewer: [illegible]

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1 + RD-58A011411_01 (from 280-11678-1)
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-58A011411_03	11	IIA2333-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 14, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUA1434

Sample Identification

RD-58A_011411_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUA1434	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-58A_011411_01 (from SDG 280-11638-1) and RD-58A_011411_03 were identified as split samples. No semivolatiles were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG IUA1434

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUA1434	RD-58A_011411_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

LDC #: 25027D2a **VALIDATION COMPLETENESS WORKSHEET** Date: 3/09/11
SDG #: IUA1434 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SK
2nd Reviewer: CV

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1 + RD-58 011411_01 (from 280-11638-1)
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	RD-58 011411_03 (A)	11	IIA1879-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

(NB only)

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 14, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUA1434

Sample Identification

RD-58A_011411_03
RD-58A_011411_38
FB_RD-58A_011411_38

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample FB_RD-58A_011411_38 was identified as a field blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUA1434	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-58A_011411_03 and RD-58A_011411_38 were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples.

Samples RD-58A_011411_03 and RD-58A_011411_01 (from SDG 280-11638-1) were identified as split samples. No N-Nitrosodimethylamine was detected in any of the samples.

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Data Qualification Summary - SDG IUA1434

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUA1434	RD-58A_011411_03 RD-58A_011411_38 FB_RD-58A_011411_38	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

LDC #: 25027D2b

SDG #: IUA1434

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/09/11

Page: 1 of 1

Reviewer: JVC

2nd Reviewer: [signature]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	D = 1, 2 S = 1 + RD-58A_011411-01
XVII.	Field blanks	ND	FB = 3 (from 280-11688-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-58A_011411_03	11	IIA1726-blk1	21		31	
2	RD-58A_011411_38	12		22		32	
3	FB_RD-58A_011411_38	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUA1434

Sample Identification

RD-58A_011411_03
RD-58A_011411_03F
RD-58A_011411_03MS
RD-58A_011411_03MSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese	0.165 mg/L	RD-58A_011411_03
PB (prep blank)	Nickel	0.00118 mg/L	RD-58A_011411_03F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-58A_011411_03F	Nickel	0.0026 mg/L	0.0026U mg/L

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUA1434	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples RD-58A_011411_01 (from SDG 280-11638-1) and RD-58A_011411_03 and samples RD-58A_011411_01F (from SDG 280-11638-1) and RD-58A_011411_03F were identified as split samples. No metals were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	RD-58A_011411_01	RD-58A_011411_03			
Antimony	0.00016	0.00030U	61 (≤35)	NQ	-
Barium	0.07	0.061	14 (≤35)	-	-
Calcium	160	150	6 (≤35)	-	-
Cobalt	0.00032	0.00016	67 (≤35)	NQ	-
Copper	0.00056U	0.00097	54 (≤35)	NQ	-
Magnesium	39	37	5 (≤35)	-	-
Manganese	0.00076	0.0070U	161 (≤35)	NQ	-
Nickel	0.0045	0.00050U	160 (≤35)	NQ	-
Potassium	4.6	4.0	14 (≤35)	-	-
Sodium	94	83	12 (≤35)	-	-
Strontium	0.51	0.49	4 (≤35)	-	-
Thallium	0.000059	0.00020U	109 (≤35)	NQ	-
Tin	0.001	0.0050U	133 (≤35)	NQ	
Zinc	0.29	0.26	11 (≤35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	RD-58A_011411_01F	RD-58A_011411_03F			
Antimony	0.00017	0.00030U	55 (≤35)	NQ	-
Barium	0.066	0.064	3 (≤35)	-	-
Calcium	160	160	0 (≤35)	-	-
Cobalt	0.00029	0.00024	19 (≤35)	-	-
Copper	0.00056U	0.0015	91 (≤35)	NQ	-
Iron	0.022U	0.030	31 (≤35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	RD-58A_011411_01F	RD-58A_011411_03F			
Magnesium	39	40	3 (≤35)	-	-
Manganese	0.00068	0.0070U	165 (≤35)	NQ	-
Nickel	0.004	0.0026	42 (≤35)	NQ	-
Potassium	4.4	4.3	2 (≤35)	-	-
Silver	0.000016	0.00010U	145 (≤35)	NQ	-
Sodium	91	89	2 (≤35)	-	-
Strontium	0.52	0.52	0 (≤35)	-	-
Thallium	0.000054	0.00020U	115 (≤35)	NQ	-
Tin	0.00023	0.0050U	182 (≤35)	NQ	-
Zinc	0.29	0.27	7 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG IUA1434

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUA1434	RD-58A_011411_03 RD-58A_011411_03F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG IUA1434

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
IUA1434	RD-58A_011411_03F	Nickel	0.0026U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

LDC #: 25027D4 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: IUA1434 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CC
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/D
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	SDG: 280-11638-1
XIV.	~~Field~~ Site Duplicates	SW	(1, RD-58A_011411_01) (2, RD-58A_011411_01F)
XV	Field Blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-58A_011411_03	11		21		31	
2	RD-58_011411_03F	12		22		32	
3	RD-58_011411_03MS	13		23		33	
4	RD-58_011411_03MSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

DC #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: [illegible]

ll circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1,2		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN; Sn Sr
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
3,4		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN; Sr
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

Analysis Method		
CP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN; Sr
CP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN; Sn
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

Comments: Mercury by CVAA if performed

LDC #: 25027D4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 1

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual.									
Mg		0.165		0.825										

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 2

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	2									
Ni		0.00118		0.0059	0.0026									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC#: 25027D4

VALIDATION FINDINGS WORKSHEET

Field Duplicates

Split

Reviewer: CR

2nd Reviewer: [signature]

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	RD-58A_011411_01	1		
Antimony	0.00016	0.00030U	61	NQ (<5xRL)
Barium	0.07	0.061	14	
Calcium	160	150	6	
Cobalt	0.00032	0.00016	67	NQ (<5xRL)
Copper	0.00056U	0.00097	54	NQ (<5xRL)
Magnesium	39	37	5	
Manganese	0.00076	0.0070U	161	NQ (<5xRL)
Nickel	0.0045	0.00050U	160	NQ (<5xRL)
Potassium	4.6	4.0	14	
Sodium	94	83	12	
Strontium	0.51	0.49	4	
Thallium	0.000059	0.00020U	109	NQ (<5xRL)
Tin	0.001	0.0050U	133	NQ (<5xRL)
Zinc	0.29	0.26	11	

LDC#: 25027D4

VALIDATION FINDINGS WORKSHEET

~~Field Duplicates~~ Split

Reviewer: GR

2nd Reviewer: [illegible]

METHOD: Metals (EPA Method 6010B/7000)

(Y) N NA Were field duplicate pairs identified in this SDG?

(Y) N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	RD-58A_011411_01F	2		
Antimony	0.00017	0.00030U	55	NQ (<5xRL)
Barium	0.066	0.064	3	
Calcium	160	160	0	
Cobalt	0.00029	0.00024	19	
Copper	0.00056U	0.0015	91	NQ (<5xRL)
Iron	0.022U	0.030	31	
Magnesium	39	40	3	
Manganese	0.00068	0.0070U	165	NQ (<5xRL)
Nickel	0.004	0.0026	42	NQ (<5xRL)
Potassium	4.4	4.3	2	
Silver	0.000016	0.00010U	145	NQ (<5xRL)
Sodium	91	89	2	
Strontium	0.52	0.52	0	
Thallium	0.000054	0.00020U	115	NQ (<5xRL)
Tin	0.00023	0.0050U	182	NQ (<5xRL)
Zinc	0.29	0.27	7	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 14, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUA1434

Sample Identification

RD-58A_011411_03
RD-58A_011411_03A
RD-58A_011411_03AMS
RD-58A_011411_03AMSD

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia, EPA Method 300.0 for Fluoride and Nitrate, EPA Method 314.0 for Perchlorate, and EPA SW 846 Method 9040B for pH.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUA1434	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-58A_011411_01A (from SDG 280-11638-1) and RD-58A_011411_03A and samples RD-58A_011411_01 (also from SDG 280-11638-1) and RD-58A_011411_03 were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Compound	Concentration		RPD (Limits)	Flags	A or P
	RD-58A_011411_01A	RD-58A_011411_03A			
Fluoride	0.37 mg/L	0.47 mg/L	24 (≤35)	-	-
pH	7.23 pH units	7.33 pH units	1 (≤35)	-	-

Compound	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	RD-58A_011411_01	RD-58A_011411_03			
Ammonia as N	0.15	0.048U	103 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG IUA1434

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUA1434	RD-58A_011411_03 RD-58A_011411_03A	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG IUA1434

No Sample Data Qualified in this SDG

LDC #: 250276 D V

SDG #: IUA1434

Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/7/11

Page: 1 of 1

Reviewer: CR

2nd Reviewer: [illegible]

METHOD: Ammonia (EPA Method 350.1), Fluoride, Nitrate ~~as Nitrogen~~ (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (Standard Method 9040B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/14/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/D
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	CSDG: 280-11638-1
IX.	~~Field~~ Split duplicates	SW	(1, RD-58A_011411_01), (2E, RD-58A_011411_01A)
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: WATER

1	RD-~~58~~ 58A_011411_03	11		21		31	
2	RD-58A_011411_03A	12		22		32	
3	RD-58A_011411_03AMS	13		23		33	
4	RD-58A_011411_03AMSD	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25887B6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: AR
2nd reviewer: W

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
2		(pH) TDS Cl (F NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC 3		pH TDS Cl (F NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
↓4		pH TDS Cl (F NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC# 25027D6

VALIDATION FINDINGS WORKSHEET

~~Field~~ Duplicates

Split

Reviewer: GR

2nd Reviewer: VW

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	RD-58A_011411_01A	2		
Fluoride	0.37	0.47	24	
pH (pH units)	7.23	7.33	1	

Analyte	Concentration (mg/L)		RPD (≤35)	
	RD-58A_011411_01	1		
Ammonia as N	0.15	0.048U	103	NQ (<5x RL)

V:\FIELD DUPLICATES\FD_inorganic\25027D6.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 31, 2011

LDC Report Date: March 9, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12176-1

Sample Identification

EB_PZ-158_013111
PZ-158_013111_01
TB_PZ-158_013111
RD-41A_013111_01
RD-41B_013111_01
TB_RD-41B_013111
RD-52B_013111_01
TB_RD-52B_013111
RD-52C_013111_01
RD-62_013111_01
RD-45B_013111_01

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_PZ-158_013111, TB_RD-41B_013111, and TB_RD-52B_013111 were identified as trip blanks. No volatile contaminants were found in these blanks.

Sample EB_PZ-158_013111 was identified as an equipment blank. No volatile contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-158_013111	1/31/11	Chloroform	2.2 ug/L	PZ-158_013111_01

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform Styrene	2.5 ug/L 0.40 ug/L	PZ-158_013111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
EB_PZ-158_013111	Dibromofluoromethane 1,2-Dichloroethane-d4	85 (86-118) 75 (80-120)	All TCL compounds except Acrylonitrile Acrolein 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A
MB 280-52621/4	Bromofluorobenzene	85 (86-115)	All TCL compounds except Acrylonitrile Acrolein 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D 280-52621/5,12 (EB_PZ-158_013111 PZ-158_013111_01 TB_PZ-158_013111 MB 280-52621/4)	Methyl-tert-butyl ether	-	-	22 (≤21)	J (all detects) UJ (all non-detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12176-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12176-1	EB_PZ-158_013111	All TCL compounds except Acrylonitrile Acrolein 2-Chloroethylvinyl ether	J (all detects) UJ (all non-detects)	A	Surrogate spikes (%R) (S)
280-12176-1	EB_PZ-158_013111 PZ-158_013111_01 TB_PZ-158_013111	Methyl-tert-butyl ether	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
280-12176-1	EB_PZ-158_013111 PZ-158_013111_01 TB_PZ-158_013111 RD-41A_013111_01 RD-41B_013111_01 TB_RD-41B_013111 RD-52B_013111_01 TB_RD-52B_013111 RD-52C_013111_01 RD-62_013111_01 RD-45B_013111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

LDC #: 25027E1a
SDG #: 280-12176-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/09/11
Page: 1 of 1
Reviewer: VG
2nd Reviewer: [signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	SW	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	EB = 1 *TB = 3 6 8 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

+ 1	EB_PZ-158_013111	+ 11	RD-45B_013111_01	− 21	MB 280-51949/6	31	(FFFF, GGGG, II only)
+ 2	PZ-158_013111_01	12		− 22	MB 280-52621/4	32	
− 3	TB_PZ-158_013111	13		23		33	
+ 4	RD-41A_013111_01	14		24		34	
+ 5	RD-41B_013111_01	15		25		35	
− 6	TB_RD-41B_013111	16		26		36	
+ 7	RD-52B_013111_01	17		27		37	
− 8	TB_RD-52B_013111	18		28		38	
− 9	RD-52C_013111_01	19		29		39	
− 10	RD-62_013111_01	20		30		40	

4 DX

Std = 1-3
VOCs = 4, 5, 10
VOCs + IPA = 6, 11, 7-9

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 25027 E1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JM
2nd Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) (Field Blank) / Rinsate / Trip Blank / Other: _____ Associated Samples: 2 2 Code: F

(from 280-11638-1) Compound	FB_011411_1 Blank ID	Blank ID	Sample Identification							
Sampling Date	1/14/11									
~~Methylene chloride~~ k	2.5		~~2.2~~							
~~Acetone~~ FF	0.40									
Chloroform										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: 2 (ND)

Compound	Blank ID 1	Blank ID	Sample Identification							
Sampling Date	1/31/11									
~~Methylene chl~~oride k	2.2									
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 25027 E1G

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

(Y) N N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	DFM	85 (86-118)	J/UJ/A (s) (qual all except GGGG, FFFF, II)
			DCE	75 (80-120)	
		MB 280-52621/4	BFB	85 (86-115)	J/UJ/p

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC #: 25027 E1a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?
Y (N) N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	LCS/D 280-52621/5,12	LL	( )	( )	22 (21)	1-3, MB 280-52621/4	J/UJ/p (E)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )			
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 31, 2011

LDC Report Date: March 9, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12176-1

Sample Identification

EB_PZ-158_013111
PZ-158_013111_01
TB_PZ-158_013111
RD-41A_013111_01
RD-41B_013111_01
TB_RD-41B_013111
RD-52B_013111_01
TB_RD-52B_013111
RD-52C_013111_01
RD-62_013111_01
RD-45B_013111_01

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Samples TB_PZ-158_013111, TB_RD-41B_013111, and TB_RD-52B_013111 were identified as trip blanks. No volatile contaminants were found in these blanks.

Sample EB_PZ-158_013111 was identified as an equipment blank. No volatile contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-1638-1) was identified as a field blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12176-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12176-1	EB_PZ-158_013111 PZ-158_013111_01 TB_PZ-158_013111 RD-41A_013111_01 RD-41B_013111_01 TB_RD-41B_013111 RD-52B_013111_01 TB_RD-52B_013111 RD-52C_013111_01 RD-62_013111_01 RD-45B_013111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

LDC #: 25027E1b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/09/11
SDG #: 280-12176-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: SVC
2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 1 TB = 3 6 8 FB = FB_011411_19 (from 280-116384)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	EB_PZ-158_013111	11	RD-45B_013111_01	21	MB 280-52347/7	31	
2	PZ-158_013111_01	12		22	MB 280-52574/9	32	
3	TB_PZ-158_013111	13		23		33	
4	RD-41A_013111_01	14		24		34	
5	RD-41B_013111_01	15		25		35	
6	TB_RD-41B_013111	16		26		36	
7	RD-52B_013111_01	17		27		37	
8	TB_RD-52B_013111	18		28		38	
9	RD-52C_013111_01	19		29		39	
10	RD-62_013111_01	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 31, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12176-1/IUB0617

Sample Identification

RD-62_013111_01
TB_RD-62_013111

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_RD-62_013111 was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12176-1/IUB0617	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-12176-1/IUB0617

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12176-1/IUB0617	RD-62_013111_01 TB_RD-62_013111	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-12176-1/IUB0617

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-12176-1/IUB0617

No Sample Data Qualified in this SDG

LDC #: 25027E1c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/06/11
SDG #: 280-12176-1/IUB0617 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VC
2nd Reviewer: 9

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates	N	↓
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-62_013111_01	11	IIB0842-BLK1	21		31	
2	TB_RD-62_013111	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 31, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12176-1

Sample Identification

EB_PZ-158_013111
PZ-158_013111_01
RD-41A_013111_01
RD-45B_013111_01
RD-52B_013111_01
RD-52C_013111_01
RD-45C_013111_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_PZ-158_013111 was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB__011411_19 (from SDG 280-11638-1) was identified as an equipment blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12176-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12176-1	EB_PZ-158_013111 PZ-158_013111_01 RD-41A_013111_01 RD-45B_013111_01 RD-52B_013111_01 RD-52C_013111_01 RD-45C_013111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

LDC #: 25027E2a **VALIDATION COMPLETENESS WORKSHEET** Date: 3/09/11
SDG #: 280-12176-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVC
2nd Reviewer: N

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 1 FB = FB_011411_19 (from 280-11678-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-158_013111	11	MB 280-51966/1-A	21		31	
2	PZ-158_013111_01	12		22		32	
3	RD-41A_013111_01	13		23		33	
4	RD-45B_013111_01	14		24		34	
5	RD-52B_013111_01	15		25		35	
6	RD-52C_013111_01	16		26		36	
7	RD-45C_013111_01	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Full = 1, 2
MB = 3
Phthalates + MB = 4, 5, 6, 7

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 31, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12176-1

Sample Identification

EB_PZ-158_013111
PZ-158_013111_01
RD-41A_013111_01
RD-45B_013111_01
RD-52B_013111_01
RD-52C_013111_01
RD-45C_013111_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_PZ-158_013111 was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Sample FB__011411_19 (from SDG 280-11638-1) was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12176-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12176-1	EB_PZ-158_013111 PZ-158_013111_01 RD-41A_013111_01 RD-45B_013111_01 RD-52B_013111_01 RD-52C_013111_01 RD-45C_013111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

LDC #: 25027E2b

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/6a/11

SDG #: 280-12176-1

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JC

2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 1 FB = FB_011411-19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	EB_PZ-158_013111	11	MB 280-52217/1-A	21		31	
2	PZ-158_013111_01	12		22		32	
3	RD-41A_013111_01	13		23		33	
4	RD-45B_013111_01	14		24		34	
5	RD-52B_013111_01	15		25		35	
6	RD-52C_013111_01	16		26		36	
7	RD-45C_013111_01	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 31, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12176-1

Sample Identification

EB_PZ-158_013111
PZ-158_013111_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB_PZ-158_013111 was identified as an equipment blank. No polychlorinated biphenyl contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polychlorinated biphenyl contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and Reported CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12176-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12176-1	EB_PZ-158_013111 PZ-158_013111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

LDC #: 25027E3b
SDG #: 280-12176-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/09/11
Page: 1 of 1
Reviewer: VG
2nd Reviewer:

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 1 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

water

1	EB_PZ-158_013111	11	MB 280-51717/1-A	21		31	
2	PZ-158_013111_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	January 31, 2011
LDC Report Date:	March 8, 2011
Matrix:	Water
Parameters:	Metals
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12176-1

Sample Identification

RD-41A_013111_01
EB_PZ-158_013111F
PZ-158_013111_01F
RD-41A_013111_01F

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 6020 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Vanadium, Zinc and Molybdenum.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Calcium Iron	0.0429 mg/L 0.0541 mg/L	EB_PZ-158_013111F PZ-158_013111_01F RD-41A_013111_01F
PB (prep blank)	Manganese Calcium Iron Magnesium Strontium Zinc	0.000860 mg/L 0.155 mg/L 0.0330 mg/L 0.0674 mg/L 0.000740 mg/L 0.216 mg/L	RD-41A_013111_01

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
EB_PZ-158_013111F	Calcium	0.049 mg/L	0.049U mg/L

Sample EB_PZ-158_013111F was identified as an equipment blank. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-158_013111F	1/31/11	Calcium Sodium Molybdenum Silver	0.049 mg/L 0.12 mg/L 0.00062 mg/L 0.000023 mg/L	PZ-158_013111_01F

Sample FB_011411_19F (from SDG 280-11638-1) was identified as a field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19F	1/14/11	Calcium Sodium	0.059 mg/L 0.098 mg/L	PZ-158_013111_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PZ-158_013111_01F	Silver	0.000029 mg/L	0.000029U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12176-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Metals - Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12176-1	RD-41A_013111_01 EB_PZ-158_013111F PZ-158_013111_01F RD-41A_013111_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*XII)

Boeing SSFL GW 1st Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12176-1	EB_PZ-158_013111F	Calcium	0.049U mg/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-12176-1	PZ-158_013111_01F	Silver	0.000029U mg/L	A	F

LDC #: 25027E4 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/1/11
SDG #: 280-12176-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: W

METHOD: Metals (EPA SW 846 Method 6010B/6020/~~7000~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	N	Client specified
VII.	Duplicate Sample Analysis	N	"
VIII.	Laboratory Control Samples (LCS)	A	LCS/D
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=4 ; FB=FB_011411_19F (SDG: 280-11638-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	~~EB_PZ-158_013111~~	11		21		31	
2	~~PZ-158_013111_01~~	12		22		32	
3	RD-41A_013111_01	13		23		33	
4	EB_PZ-158_013111F	14		24		34	
5	PZ-158_013111_01F	15		25		35	
6	RD-41A_013111_01F	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

DC #: [illegible]

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: [illegible]

ll circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
3,6		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN; (SC)
4,5		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

LDC #: 25027E4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reason: B

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 4-6

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	4.									
Ca		0.0429		0.2145	0.049									
Fe		0.0541		0.2705										

Sample Concentration units, unless otherwise noted: mg/L
Associated Samples: 3

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual.									
Mn		0.000860		0.0043										
Ca		0.155		0.775										
Fe		0.0330		0.165										
Mg		0.0674		0.337										
Sr		0.000740		0.0037										
Zn		0.216		1.08										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 25027E4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: SC
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason Code: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 5

Analyte	Blank ID	Sample Identification										
	FB_011411_19F (SDG: 280-11638-1)	Action Level	No Qualifiers									
Ca	0.059	0.295										
Na	0.098	0.49										

Sampling date: 1/31/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: (LRB) Associated Samples: 5

Analyte	Blank ID	Sample Identification										
	4	Action Level	5									
Ca	0.049	0.245										
Na	0.12	0.6										
Mo	0.00062	0.003										
Ag	0.000023	0.000115	0.000029									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 31, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12176-1

Sample Identification

EB_PZ-158_013111
PZ-158_013111_01
RD-76_013111_01
RD-41A_013111_01
RD-41A_013111_01A
RD-45B_013111_01
RD-52B_013111_01
RD-52B_013111_01A
RD-52C_013111_01
RD-45C_013111_01
RD-41A_013111_01ADUP

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, and Orthophosphate Sulfate, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 2510 for Specific Conductance, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
EB_PZ-158_013111 PZ-158_013111_01	Nitrate Nitrite Orthophosphate as P	82.75 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-41A_013111_01A	Nitrate	80.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-45B_013111_01	Nitrate	79 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-52B_013111_01A	Nitrate	82.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-52C_013111_01	Nitrate	81.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-45C_013111_01	Nitrate	78.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-41A_013111_01A	Turbidity	66 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-41A_013111_01A RD-41A_013111_01ADUP	pH	93.75 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-45B_013111_01	pH	92.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-52B_013111_01A	pH	95.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-52C_013111_01	pH	94.25 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-45C_013111_01	pH	91.25 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Perchlorate	0.630 mg/L	RD-41A_013111_01A RD-45B_013111_01 RD-52B_013111_01A RD-52C_013111_01 RD-45C_013111_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_PZ-158_013111 was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-158_013111	1/31/11	Sulfate	0.36 mg/L	PZ-158_013111_01

Sample FB_011411_19F (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19F	1/14/11	Sulfate	0.37 mg/L	PZ-158_013111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-12176-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-12176-1	EB_PZ-158_013111 PZ-158_013111_01	Nitrate Nitrite Orthophosphate as P	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-12176-1	RD-41A_013111_01A RD-45B_013111_01 RD-52B_013111_01A RD-52C_013111_01 RD-45C_013111_01	Nitrate	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-12176-1	RD-41A_013111_01A	Turbidity	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-12176-1	RD-41A_013111_01A RD-45B_013111_01 RD-52B_013111_01A RD-52C_013111_01 RD-45C_013111_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-12176-1	EB_PZ-158_013111 PZ-158_013111_01 RD-76_013111_01 RD-41A_013111_01 RD-41A_013111_01A RD-45B_013111_01 RD-52B_013111_01 RD-52B_013111_01A RD-52C_013111_01 RD-45C_013111_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

LDC #: 25027E6 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11

SDG #: 280-12176-1 Level V Page: 1 of 1

Laboratory: Test America Inc. Reviewer: CR

2nd Reviewer: V

METHOD: (Analyte) Alkalinity (Standard Method 2320B), Ammonia-N (EPA Method 350.2), Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate, Sulfate (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Specific Conductance (Standard Method 2510B), Total Dissolved Solids (Standard Method 2540C), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 1/31/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	N	Client specified
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/D
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	~~EB=1~~
X	Field blanks	SW	EB=1; FB= FB_011411_19 (280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	EB_PZ-158_013111	11	RD-41A_013111_01ADUP	21		31	
2	PZ-158_013111_01	12		22		32	
3	RD-76_013111_01	13		23		33	
4	RD-41A_013111_01	14		24		34	
5	RD-41A_013111_01A	15		25		35	
6	RD-45B_013111_01	16		26		36	
7	RD-52B_013111_01	17		27		37	
8	RD-52B_013111_01A	18		28		38	
9	RD-52C_013111_01	19		29		39	
10	RD-45C_013111_01	20		30		40	

Notes:

LDC #: 28027E6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1,2		pH TDS (Cl) F NO_3 NO_2 SO_4 (PO4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Rr)
3		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
4,7		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} ClO_4
5		(pH TDS) (Cl F NO_3) NO_2 (SO_4) PO_4 (ALK) CN^- NH_3 TKN TOC CR^{6+} (ClO_4) Cond. Turb
6,9,10		(pH) TDS Cl (F NO_3) NO_2 SO_4 PO_4 ALK CN^- (NH_3) TKN TOC CR^{6+} (ClO_4)
8		(pH) TDS Cl (F NO_3) NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (ClO_4)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
QC:11		(pH) TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (Cond)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 25027E6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: QR
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:		300.0	180.1	9040B			
Parameters:		NO_3, NO_2, oPO_4	Turbidity	pH			
Technical holding time:		48hrs	48hrs	48hrs			
Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
1 (NO_3, NO_2, oPO_4)	1/31/11 07:55	2/3/11 18:33	(82.75hrs)				J/UJ/P (H)
2 ↓	08:43	19:25	↓				
5 (NO_3 only)	11:30	19:43	(80.25hrs)				
6 ↓	12:58	20:00	(79hrs)				
8 ↓	10:00	20:17	(82.25hrs)				
9 ↓	11:05	20:34	(81.5hrs)				
10 ↓	14:17	20:52	(78.5hrs)				
5	11:30		2/3/11 17:33	(66hrs)			
5, 11	11:30			2/4/11 09:18	~~(81.75hrs)~~ QR (93.75hrs)		
6	12:58			09:21	(92.5hrs)		
8	10:00			09:23	(95.5hrs)		
9	11:05			09:25	(94.25hrs)		
10	14:17			09:29	~~(103.25hrs)~~ CR (91.25hrs)		✓

LDC #: 25027E6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: QR
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were blank analyses performed as required? If no, please see qualifications below.
Y N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: ug/L **Associated Samples: 5, 6, 8-10**

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		No Qual (ND)									
ClO4	0.630		3.15										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 25027E6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: [signature]
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks? Reason: F

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 2

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		No Qualifiers							
Sulfate	0.37	1.85								

Sampling date: 1/31/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2

Analyte	Blank ID	Action Limit	Sample Identification							
	1		No Qualifiers							
Sulfate	0.36	1.8								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 31, 2011

LDC Report Date: March 9, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12176-1

Sample Identification

EB_PZ-158_013111
PZ-158_013111_01
RD-45B_013111_01
RD-52B_013111_01
RD-52C_013111_01
RD-45C_013111_01
RD-41B_013111_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

Sample EB_PZ-158_013111 was identified as an equipment blank. No diesel range organic contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No diesel range organic contaminants were found in this blank.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12176-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12176-1	EB_PZ-158_013111 PZ-158_013111_01 RD-45B_013111_01 RD-52B_013111_01 RD-52C_013111_01 RD-45C_013111_01 RD-41B_013111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

LDC #: 25027E8 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/09/11
SDG #: 280-12176-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VG
2nd Reviewer: [illegible]

METHOD: GC Diesel Range Organics (EPA Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	EB = 1 ~~TB = 3~~ TB = FB_011411_19 (from 280-11678-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	EB_PZ-158_013111	11	MB 280-51883/1-A	21		31	
2	PZ-158_013111_01	12		22		32	
3	~~TB_PZ-158_013111~~	13		23		33	
4	RD-45B_013111_01	14		24		34	
5	RD-52B_013111_01	15		25		35	
6	RD-52C_013111_01	16		26		36	
7	RD-45C_013111_01	17		27		37	
8	RD-41B_013111_01	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 31, 2011

LDC Report Date: March 9, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12176-1/A1B030458

Sample Identification

EB_PZ-158_013111
PZ-158_013111_01
RD-41A_013111_01
RD-45B_013111_01
RD-52B_013111_01
RD-52C_013111_01
RD-45C_013111_01

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_PZ-158_013111 was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No formaldehyde was found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Formaldehyde	21 ug/L	PZ-158_013111_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12176-1/A1B030458	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-12176-1/A1B030458

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12176-1/A1B030458	EB_PZ-158_013111 PZ-158_013111_01 RD-41A_013111_01 RD-45B_013111_01 RD-52B_013111_01 RD-52C_013111_01 RD-45C_013111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-12176-1/A1B030458

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-12176-1/A1B030458

No Sample Data Qualified in this SDG

LDC #: 25027E71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/19/11
SDG #: 280-12176-1/A1B030458 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SW
2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	SW	EB = 1 FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	EB_PZ-158_013111	11	1034225-MB	21		31	
2	PZ-158_013111_01	12		22		32	
3	RD-41A_013111_01	13		23		33	
4	RD-45B_013111_01	14		24		34	
5	RD-52B_013111_01	15		25		35	
6	RD-52C_013111_01	16		26		36	
7	RD-45C_013111_01	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25027 E7/

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: NV
2nd Reviewer:

METHOD: · GC __ HPLC

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/L

Sampling date: 1/14/11

Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: 2 (ND)

Compound	Blank ID	Blank ID	Sample Identification							
from 280-116938-1	FB_0114	11-19								
Formaldehyde	21									
CRQL										

Blank units: _____ Associated sample units: _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:

Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: January 31, 2011

LDC Report Date: March 8, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12176-1

Sample Identification

RD-41A_013111_01
RD-45B_013111_01
RD-52B_013111_01
RD-52C_013111_01
RD-45C_013111_01
RD-52B_013111_01MS
RD-52B_013111_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 280-51991/25	2/4/11	Hydrazine Monomethyl Hydrazine	0.890 mg/L 0.810 mg/L	RD-52B_013111_01 RD-52C_013111_01 RD-45C_013111_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Target Compound Identification

Raw data were not reviewed for this SDG.

VIII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12176-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. System Performance

Raw data were not reviewed for this SDG.

X. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-12176-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12176-1	RD-41A_013111_01 RD-45B_013111_01 RD-52B_013111_01 RD-52C_013111_01 RD-45C_013111_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-12176-1

No Sample Data Qualified in this SDG

LDC #: 25027E76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/7/11
SDG #: 280-12176-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: CR
2nd Reviewer: MV

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/31/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	N	Not required
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: WG+SL

1	RD-41A_013111_01	11	MB 280-51991/2-S	21		31	
2	RD-45B_013111_01	12	MB-280-52260/2-S	22		32	
3	RD-52B_013111_01	13		23		33	
4	RD-52C_013111_01	14		24		34	
5	RD-45C_013111_01	15		25		35	
6	RD-52B_013111_01MS	16		26		36	
7	RD-52B_013111_01MSD	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25027E76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CC
2nd reviewer: AW

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
2 5		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
QC: 6,7		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments: _____

LDC #: 25027E76

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 2
Reviewer: CF
2nd Reviewer: [signature]

METHOD: Hydrazines

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank extraction date: NA **Blank analysis date:** 2/4/11

Conc. units: mg/L Associated Samples: 3-5

Compound	Blank ID	Sample Identification								
	MB 280-51991/25	No Qual (ND)								
Hydrazine	0.890									
Monomethyl Hydrazine	0.810									

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants that were detected in samples within five times the associated method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 7, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	N-Nitrosodimethylamine
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12282-1

Sample Identification

RD-44_020711_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12282-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-12282-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12282-1	RD-44_020711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-12282-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-12282-1

No Sample Data Qualified in this SDG

LDC #: 25027F2b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/09/11
SDG #: 280-12282-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VG
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/07/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-44_020711_01	11	MB 280-5255/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 7, 2011
LDC Report Date:	March 9, 2011
Matrix:	Water
Parameters:	Formaldehyde
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12282-1/A1B080539

Sample Identification

RD-45A_020711_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Level V.

b. Calibration Verification

Calibration verification data were not reviewed for Level V.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12282-1/A1B080539	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-12282-1/A1B080539

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12282-1/A1B080539	RD-45A_020711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*VI)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-12282-1/A1B080539

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-12282-1/A1B080539

No Sample Data Qualified in this SDG

LDC #: 25027F71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/09/11

SDG #: 280-12282-1/A1B080539 Level V Page: 1 of 1

Laboratory: Test America, Inc. Reviewer: MC

2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/07/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-45A_020711_01	11	10 40037 - MB	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 7, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	Hydrazines
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12282-1

Sample Identification

RD-45A_020711_01
RD-45A_020711_01MS
RD-45A_020711_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DV-WC-0077/DV-WV-0048 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazines were found in the method.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12282-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-12282-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12282-1	RD-45A_020711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-12282-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-12282-1

No Sample Data Qualified in this SDG

LDC #: 25027F76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/14/14
SDG #: 280-12282-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: AR
2nd Reviewer: W

METHOD: ~~HPLC~~ Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/7/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-45A_020711_01	11	PBW	21		31	
2	RD-45A_020711_01MS	12		22		32	
3	RD-45A_020711_01MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25027 76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer:
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter		
1		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
DC: 2, 3		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 7, 2011
LDC Report Date:	March 14, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level V & IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-12282-1/IUB0958

Sample Identification

SH-09_020711_01**
SH-09_020711_36**
FB_SH-09_020711_19**
TB_SH-09_020711
EB_SH-09_020711**
SH-09_020711_01DUP

**Indicates sample underwent Level IV review

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Samples indicated by a double asterisk on the front cover underwent a Level IV review. A Level V review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level V criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 30.0% for all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 30.0% for all compounds.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_SH-09_020711 was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

Sample EB_SH-09_020711** was identified as an equipment blank. No 1,2,3-Trichloropropane was found in this blank.

Sample FB_SH-09_020711_19** was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits for samples on which a Level IV review was performed. Internal standards were not evaluated for the samples reviewed by Level V criteria.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a Level IV review was performed.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12282-1/IUB0958	All compounds reported below the RL.	J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level V criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-09_020711_01** and SH-09_020711_36** were identified as field duplicates. No 1,2,3-Trichloropropane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-09_020711_01**	SH-09_020711_36**			
1,2,3-Trichloropropane	0.0035	0.0036	3 (≤35)	-	-

Samples SH-09_020711_01 and SH-09_020711_03 (from SDG IUB0995) were identified as split samples. No 1,2,3-Trichloropropane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-09_020711_01**	SH-09_020711_03			
1,2,3-Trichloropropane	0.0035	0.0053	41 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-12282-1/IUB0958

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12282-1/IUB0958	SH-09_020711_01** SH-09_020711_36** FB_SH-09_020711_19** TB_SH-09_020711 EB_SH-09_020711**	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-12282-1/IUB0958

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-12282-1/IUB0958

No Sample Data Qualified in this SDG

LDC #: 25027F1c **VALIDATION COMPLETENESS WORKSHEET** Date: 3/08/11
SDG #: 280-12282-1/IUB0958 Level V/IV Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VG
2nd Reviewer:

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/07/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%RSD ≤ 20%
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 30%
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates /Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1, 2 S = 1 + SH-09_020711_03 (IUB0995)
XVII.	Field blanks	ND	FB = 3 TB = 4 EB = 5

~~= FB_011411_19 (from 280-11638-1)~~

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ** level IV

water

1	SH-09_020711_01 ** D	11	IIBB29-Blk1	21		31	
2	SH-09_020711_36 ** D	12		22		32	
3	FB_SH-09_020711_19 **	13		23		33	
4	TB_SH-09_020711	14		24		34	
5	EB_SH-09_020711 **	15		25		35	
6	SH-09_020711_01DUP	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25027 F1C
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) < 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) < 30%?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?		✓		
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for this SDG?	✓ Dup	✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			

LDC #: 25027 FIC
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within +/-40% from the associated calibration standard?	✓			
Were retention times within - 30% of the last continuing calibration or +/- 50% of the initial calibration?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 25 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC#:25027F1c

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MV
2nd Reviewer:

METHOD: GC MS 1,2,3-Trichloropropane (EPA Method 524.2)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	1	2		
1,2,3-Trichloropropane	0.0035	0.0036	3	-

V:\FIELD DUPLICATES\25027F1c.wpd

LDC#:25027F1c

VALIDATION FINDINGS WORKSHEET
Field Splits

Page: 1 of 1
Reviewer: VG
2nd Reviewer: ✓

METHOD: GC MS 1,2,3-Trichloropropane (EPA Method 524.2)

(Y) N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	SH-09_020711_01	SH-09_020711_03		
1,2,3-Trichloropropane	0.0035	0.0053	41	NQ

V:\FIELD DUPLICATES\25027F1c(FS).wpd

LDC #: 25027 FIC

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC/MS 1,2,3-Trichlopropane (EPA Method 524.2)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL GCMS 74	1/31/2011	1,2,3-TCP (1,2,3-TCP-d5)	1.04787	1.04787	1.08688	1.08688	5.75	5.75

Conc IS/Cpd	Area cpd	Area IS
50/50	24978	23837

Conc (ng/L)	1,2,3-TCP
5	1.06938
10	1.04525
20	1.05270
50	1.04787
100	1.03928
200	1.18738
500	1.16630
X =	1.08688
S =	0.062

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

METHOD: GC/MS 1,2,3-Trichlopropane (EPA Method 524.2)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound,
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial)	Reported RRF (CCV)	Recalculated RRF (CCV)	Reported % D	Recalculated %D
1	VSTD050	2/10/2011	1,2,3-TCP (1,2,3-TCP-d5)	1.08688	1.08212	1.08212	0.4	0.4
	GCMS 74							

Cis/Cx	Ax	Ais
50/50	25616	23672

LDC #: 25027 FIC
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCS - LCSD I * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 11B1329-BS1

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,2,3-TCP	0.005	NA	0.00497	NA	89	89				
~~1,1-Dichloroethene~~										
Trichloroethene										
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25027 FIC
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MV
2nd reviewer:

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #1, 1,2,3-TCP

Conc. = $\frac{(1780)(50)(\quad)}{(23175)(1.08688)(\quad)(\quad)}$

= $\frac{3.54 \text{ ng/L}}{1000}$

= 0.0035 ng/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 7, 2011

LDC Report Date: March 9, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-12282-1

Sample Identification

SH-09_020711_01
SH-09_020711_36
FB_SH-09_020711_19
EB_SH-09_020711

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample EB_SH-09_020711 was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_SH-09_020711_19 was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-12282-1	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples SH-09_020711_01 and SH-09_020711_36 were identified as field duplicates. No herbicides were detected in any of the samples.

Samples SH-09_020711_01 and SH-09_020711_03 (from SDG IUB0995) were identified as split samples. No herbicides were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-12282-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-12282-1	SH-09_020711_01 SH-09_020711_36 FB_SH-09_020711_19 EB_SH-09_020711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-12282-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-12282-1

No Sample Data Qualified in this SDG

LDC #: 25027F5
SDG #: 280-12282-1
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level IV

Date: 3/08/11
Page: 1 of 1
Reviewer: AM
2nd Reviewer: [signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/07/11
IIa.	Initial calibration	A	~~%RSD ≤ 20%~~ r²
IIb.	Calibration verification/ICV	A	CCV/ICV ≤ 20%
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	A	
VII.	System Performance	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates / Split	ND	D = 1, 2 S = 1 + SH-09_020711_03
X.	Field blanks	ND	FB = 3 EB = 4 (from 11UB0995) ~~FB_011411_19 (=280-11638-1)~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-09_020711_01	11	MB 280-52345/1-A	21		31	
2	SH-09_020711_36	12		22		32	
3	FB_SH-09_020711_19	13		23		33	
4	EB_SH-09_020711	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: (A, C, E, L only)

LDC #: 25027 FS

VALIDATION FINDINGS CHECKLIST

Reviewer: JVC
2nd Reviewer: CJ

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	-	✓		
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	✓			
Did the initial calibration meet the curve fit acceptance criteria?	✓			
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓		NA	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		
IX. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.		✓		
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

VALIDATION FINDINGS WORKSHEET

METHOD: ____GC ____HPLC

8310	8330	8151	8141	8141 (Con't)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethyl Benzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. O-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. MP-Xylene
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total Xylene
G. Benzo(g,h,i)perylene	G. 2.4.6-Trinitrotoluene	G. Dicamba	G. Sulfotep	BB. Trichloronate	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Trichlorinate	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel		
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion		
O. Phenanthrene	O.		O. Chlorpyrifos		
P. Pyrene	P.		P. Fenthion		
Q.	Q		Q. Parathion-ethyl		
R.			R. Trichlornate		
S.			S. Merphos		
			T. Stirofos		
			U. Tokuthion		

Notes: _____

LDC#: 25027 F5

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JV6
2nd Reviewer: CL

Method: GC Herbicides (EPA SW 846 Method 8151)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X2) Response	CF
1/24/2011	GCS M	2,4-D	1	18.8	38579	1488339241	2051.4
			2	47.0	78484	6159738256	1669.3
	DB XLB		3	235.1	305530	93348580900	1299.7
			4	470.2	521794	272268978436	1109.8
			5	705.2	726872	528342904384	1030.7
			6	940.3	934396	873095884816	993.7
			7	1880.6	1709644	2922882606736	909.1
						Ave	1294.8

Regression Output	*Calculated*		*Reported*	
Constant	b =	-29.2595	c =	*-29.259405*
Std Err of Y Est				
Coefficient of Determination (r^2)	r^ 2	0.9995605	r^ 2	*0.9996*
Degrees of Freedom				
	m1 =	m2 =	m1 =	m2 =
X Coefficient(s)	0.00091016	1.2229E-10	*0.00091015*	*1.22288E-10*
Std Err of Coef.				
Correlation Coefficient		0.999780		

LDC#: 25027 F5

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: DK
2nd Reviewer:

Method: GC Herbicides (EPA SW 846 Method 8151)

Calibration Date	Instrument/Column	Compound	Standard	(Y) Conc	(X) Response	(X2) Response	CF
1/24/2011	GCS M	2,4-D	1	18.8	30932	956788624	1644.8
			2	47.0	72903	5314847409	1550.6
	DB35MS		3	235.1	309541	95815630681	1316.8
			4	470.2	541597	293327310409	1151.9
			5	705.2	763464	582877279296	1082.6
			6	940.3	981128	962612152384	1043.4
			7	1880.6	1846580	3409857696400	981.9
						Ave	1253.1

Regression Output	*Calculated*		*Reported*	
Constant	b =	-22.3381	b =	*-22.338032*
Std Err of Y Est				
Coefficient of Determination (r^2)	r^ 2	0.9995148	r^ 2	*0.9995*
Degrees of Freedom				
	m1 =	m2 =	m1 =	m2 =
X Coefficient(s)	0.00088648	7.9156E-11	*0.00088647*	*7.91573E-11*
Std Err of Coef.				
Correlation Coefficient		0.999757		

LDC # 25027 F5

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: JB
2nd Reviewer: [illegible]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = 100 * (N - C)/N Where: N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Average RRF Conc	Reported RRF (CC)	Recalculated RRF (CC)	Reported % D	Recalculated % D
1	00003B0301	2/11/2011	2,4-D (DB 35MS)	470	407	407	13.5	13.5
			2,4-D (DB XLB)	470	452	452	3.9	3.9
2								

Y = m1X + m2(X^2) + b
Y= Amount X= Response

		Response	Response^2	m1	m2	b	m2(X^2)	m1X	Conc
CCV1	2,4-D (DB 35MS)	464556	2.15812E+11	0.000886	7.9157E-11	-22.3380	17.0831	411.81496	406.56
	2,4-D (DB XLB)	495479	2.45499E+11	0.000910	1.2229E-10	-29.2594	30.0216	450.96021	451.72

LDC #: 25027 F5

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
2,4-DCPAA	DB35 MS	500	513.832	103	103	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 25027F5

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer: [signature]

METHOD: __GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS 280-52345/2,3A

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)	4.60	4.40	5.70	5.65	119	119	118	118	1	1
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25027 F5

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name MD

Concentration =_____

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 1, 2011

SUBJECT: Boeing SSFL GW 1st Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on March 11, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25099:

SDG #	Fraction
IUB0547/HAL73	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane,
IUB0995	Semivolatiles, N-Nitrosodimethylamine, Herbicides Wet Chemistry, Formaldehyde, Hydrazine

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Attachment 1

EDD Client Select IV

LDC #25099 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 1st Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		NDMA (1625)		Herbs (8151A)		Formal-dehyde (8315)		1,1-DMH 8315AM		MMH 8315AM		Hydra-zine 8315AM		Cl SO_4 (300.0)		F NO_3-N (300.0)		Br, NO_2-N O-PO_4									
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	IUB0547/HAL73	03/11/11	04/01/11	1	0	1	0	-	-	1	0	1	0	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0								
B	IUB0995	03/11/11	04/01/11	-	-	-	-	1	0	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
Total	A/PG			1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	13

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 3, 2011
LDC Report Date:	March 26, 2011
Matrix:	Water
Parameters:	Volatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0547

Sample Identification

PZ-141_020311_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No volatile contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No volatile contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Chloroform Styrene	2.5 ug/L 0.40 ug/L	PZ-141_020311_03

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
PZ-141_020311_03	Chloroform	0.39 ug/L	1.0U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0547	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ_141_020311_03 and PZ_141_020311_01 (from SDG 280-12215-1) were identified as split samples. No polynuclear aromatic hydrocarbons were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ_141_020311_01	PZ_141_020311_03			
Chloroform	1.0U	0.39	88 (≤35)	NQ	-
cis-1,2-Dichloroethene	18	1.0U	179 (≤35)	NQ	-
trans-1,2-Dichloroethene	0.16	1.0U	145 (≤35)	NQ	-
Trichloroethene	59	1.0U	193 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Data Qualification Summary - SDG IUB0547

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0547	PZ-141_020311_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG IUB0547

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
IUB0547	PZ-141_020311_03	Chloroform	1.0U ug/L	A	F

LDC #: 25099A1a

SDG #: IUB0547

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/21/11

Page: 1 of 1

Reviewer: JVb

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 1 + PZ-141_020311_01 (from 280-12215-1)
XVII.	Field blanks	SW	*EB = EB_PZ-141_020311 (from 280-12215-1) FB = FB_011411_19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ~~*~~ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-141_020311_03	11	11B1555-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 25099 A1c

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: NC
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y / N /N/A Were field blanks identified in this SDG?
Y / N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: FB Associated Samples: 1 (FB) Code: F

from 280-116978-1 Compound	Blank ID: FB-011411-19	Blank ID	Sample Identification							
Sampling Date	1/14/11		1							
~~Methylene chloride~~ K	2.5		0.39/1.0U							
~~Acetone~~ FF	0.40									
Chloroform										
CRQL										

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC#:25099A1a

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: MC
2nd Reviewer: LA

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y/N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	PZ-141_020311_01	PZ-141_020311_03		
Chloroform	1.0U	0.39	88	NQ
cis-1,2-Dichloroethene	18	1.0U	179	NQ
trans-1,2-Dichloroethene	0.16	1.0U	145	NQ
Trichloroethene	59	1.0U	193	NQ

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 3, 2011
LDC Report Date:	March 25, 2011
Matrix:	Water
Parameters:	1,4-Dioxane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0547

Sample Identification

PZ_141_020311_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-Dioxane was found in the method blanks.

Sample EB_PZ_141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No 1,4-Dioxane was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No 1,4-Dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0547	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ_141_020311_03 and PZ_141_020311_01 (from SDG 280-12215-1) were identified as split samples. No 1,4-Dioxane was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG IUB0547

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0547	PZ_141_020311_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

LDC #: 25099A1b **VALIDATION COMPLETENESS WORKSHEET** Date: 3/21/11
SDG #: IUB0547 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: JC
2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1 + PZ-141_020311-01 (from 280-12215-1
XVII.	Field blanks	ND	EB = EB_PZ-141_020311 FB = FB_011411_19 (from 280-11678-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-141_020311_03	11	11B1098-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 3, 2011
LDC Report Date:	March 26, 2011
Matrix:	Water
Parameters:	Semivolatiles
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0547

Sample Identification

PZ-141_020311_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
11B0992/BS1/BSD1 (All samples in SDG IUB0547)	Benzidine	-	0 (36-160)	200 (≤35)	J (all detects) R (all non-detects)	P
11B0992/BS1/BSD1 (All samples in SDG IUB0547)	Benzo(k)fluoranthene	-	-	24 (≤20)	J (all detects) UJ (all non-detects)	P
	Butylbenzylphthalate	-	-	39 (≤20)		
	Bis(2-chloroisopropyl) ether	-	-	24 (≤20)		
	2-Chlorophenol	-	-	27 (≤25)		
	Di-n-octylphthalate	-	-	36 (≤20)		
	Isophorone	-	-	30 (≤20)		
	2-Nitrophenol	-	-	37 (≤25)		
	N-Nitroso-di-n-propylamine	-	-	25 (≤20)		
	Pentachlorophenol	-	-	26 (≤25)		
	Phenol	-	-	30 (≤25)		

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0547	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ_141_020311_03 and PZ_141_020311_01 (from SDG 280-12215-1) were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ_141_020311_01	PZ_141_020311_03			
Di-n-octyl phthalate	2.2	19U	158 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG IUB0547

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0547	PZ-141_020311_03	Benzidine	J (all detects) R (all non-detects)	P	Laboratory control samples (%R)(RPD) (L,E)
IUB0547	PZ-141_020311_03	Benzo(k)fluoranthene Butylbenzylphthalate Bis(2-chloroisopropyl) ether 2-Chlorophenol Di-n-octylphthalate Isophorone 2-Nitrophenol N-Nitroso-di-n-propylamine Pentachlorophenol Phenol	J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD) (E)
IUB0547	PZ-141_020311_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

LDC #: 25099A2a

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/21/11

SDG #: IUB0547

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	SW	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 1 + PZ-141_020311_01 (from 280-11275-1)
XVII.	Field blanks	ND	EB = EB_PZ-141_020311 ↓ FB = FB-011411-19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	PZ-141_020311_03	11	1180992_Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 20099 A2c

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: DVB
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was a LCS required?

Y (N) N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	11B0992-BS1/BSD1	SSS	( )	0 (30-160)	200 (35)	All	J/R/P (L, E)
		HHH	( )	( )	24 (20)		J/NJ/P (E)
		AAA	( )	( )	39 ( )		
		MMM	( )	( )	24 ( )		
		C	( )	( )	27 (25)		
		FFF	( )	( )	36 (20)		
		M	( )	( )	30 ( )		
		N	( )	( )	37 (25)		
		J	( )	( )	25 (20)		
		TT	( )	( )	26 (25)		
		A	( )	( )	30 ( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC#:25099A2a

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: JVG
2nd Reviewer:

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270C)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	PZ-141_020311_01	PZ-141_020311_03		
Di-n-octyl phthalate	2.2	19U	158	NQ

V:\FIELD DUPLICATES\25099A2a(FS).wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 30, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUB0547

Sample Identification

PZ_141_020311_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_PZ_141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0547	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ_141_020311_03 and PZ_141_020311_01 (from SDG 280-12215-1) were identified as split samples. No N-Nitrosodimethylamine was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG IUB0547

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0547	PZ-141_020311_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

LDC #: 25099A2b
SDG #: IUB0547
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~III~~ IV

Date: 3/21/11
Page: 1 of 1
Reviewer: VG
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	Not ~~required~~.
III.	Initial calibration	~~N~~	~~2 RSD ≤ 20%~~
IV.	Continuing calibration/ICV	~~N~~	~~CCV/ICV ≤ 20%~~
V.	Blanks	A	
VI.	Surrogate spikes	N	Not required.
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	~~N~~	
XI.	Target compound identification	~~N~~	
XII.	Compound quantitation/CRQLs	~~N~~	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	~~N~~	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	ND	S = 1+ PZ-141_020311_01 (from 280-12215-1)
XVII.	Field blanks	ND	EB = EB-PZ-14.020311 ↓ FB = FB-011411_19 (280-11838-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water ✓

1	PZ-141_020311_03	11	11B1074-Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 3, 2011
LDC Report Date:	March 26, 2011
Matrix:	Water
Parameters:	Polynuclear Aromatic Hydrocarbons
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0547

Sample Identification

PZ-141_020311_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method blanks.

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-141_020311	2/3/11	Naphthalene Di-n-butylphthalate Di-n-octylphthalate Diethylphthalate	0.0098 ug/L 0.023 ug/L 0.11 ug/L 0.10 ug/L	PZ-141_020311_03

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Benzo(a)anthracene Chrysene Naphthalene Bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-butylphthalate Di-n-octylphthalate	0.0054 ug/L 0.0037 ug/L 0.0073 ug/L 0.14 ug/L 0.060 ug/L 0.094 ug/L 0.51 ug/L	PZ-141_020311_03

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there was insufficient sample volume for analysis of the matrix spike and matrix spike duplicate.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0547	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ_141_020311_03 and PZ_141_020311_01 (from SDG 280-12215-1) were identified as split samples. No polynuclear aromatic hydrocarbons were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	PZ_141_020311_01	PZ_141_020311_03			
2-Methylnaphthalene	0.0051	0.47U	196 (≤35)	NQ	-
Naphthalene	0.017	0.47U	186 (≤35)	NQ	-
Bis(2-ethylhexyl)phthalate	0.26	0.47U	58 (≤35)	NQ	-
Butyl benzyl phthalate	0.053	0.47U	159 (≤35)	NQ	-
Di-n-butyl phthalate	0.17	0.47U	94 (≤35)	NQ	-
Diethyl phthalate	0.26	0.47U	58 (≤35)	NQ	-
Di-n-octyl phthalate	0.15	0.47U	103 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG IUB0547

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0547	PZ-141_020311_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

LDC #: 25099A2c

SDG #: IUB0547

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 3/21/11

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: [signature]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Insufficient vol.
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	S = 1 + PZ-141_020311_01 (from 280-11638-1)
XVII.	Field blanks	SW	EB = EB_PZ-141_020311 ↓ FB = FB-011411_19 (from 280_11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-141_020311_03	11	11B1078-Blk1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

COMPNDL

LDC #: 25099A2C

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JYG
2nd Reviewer: L

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date:

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 1 (ND)

Compound (from 280-11638-1)	Blank ID: FB-011411-19	EB-P2-14-020311 (from 280-12215-1)	Sample Identification							
Sampling date:	1/14/11	2/03/11								
CCC	0.0054									
DDD	0.0037									
S	0.0073	0.0098								
EEE	0.14									
AAA	0.060									
XX	0.094	0.023								
FFF	0.51	0.11								
2L		0.10								

Blank units: **Associated sample units:**

Sampling date:

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples:

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC#:25099A2c

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: SVB
2nd Reviewer:

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270C-SIM)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	PZ-141_020311_01	PZ-141_020311_03		
2-Methylnaphthalene	0.0051	0.47U	196	NQ
Naphthalene	0.017	0.47U	186	NQ
Bis(2-ethylhexyl)phthalate	0.26	0.47U	58	NQ
Butyl benzyl phthalate	0.053	0.47U	159	NQ
Di-n-butyl phthalate	0.17	0.47U	94	NQ
Diethyl phthalate	0.26	0.47U	58	NQ
Di-n-octyl phthalate	0.15	0.47U	103	NQ

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 26, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUB0547

Sample Identification

PZ-141_020311_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Bromide, Chloride, Fluoride, Nitrate, Nitrite, Orthophosphate as Phosphorus, and Sulfate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_PZ-141_020311	2/3/11	Fluoride	0.067 mg/L	PZ-141_020311_03

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_011411_19	1/14/11	Sulfate	0.37 mg/L	PZ-141_020311_03

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicates

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG IUB0547	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ_141_020311_03 and PZ_141_020311_01 (from SDG 280-12215-1) were identified as split samples. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ_141_020311_01	PZ_141_020311_03			
Bromide	0.18	0.36	67 (≤35)	NQ	-
Fluoride	0.34	0.45	28 (≤35)	-	-
Chloride	70	78	11 (≤35)	-	-

Analyte	Concentration (mg/L)		RPD (Limits)	Flags	A or P
	PZ_141_020311_01	PZ_141_020311_03			
Nitrate	1.0	0.32	103 (≤35)	NQ	-
Sulfate	310	320	3 (≤35)	-	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG IUB0547

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
IUB0547	PZ-141_020311_03	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (*VIII)

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

LDC #: 25099A6
SDG #: IUB0547
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 3/21/11
Page: 1 of 1
Reviewer: SR
2nd Reviewer: ✓

METHOD: (Analyte) Bromide, Chloride, Fluoride, Nitrate-~~N~~, Nitrite-~~N~~, Orthophosphate-P, Sulfate (EPA Method 300.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/3/11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	N	Client specified
V	Duplicates	N	↓
VI.	Laboratory control samples	A	LCS
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	~~Field duplicates~~ SDG	SW	Cl, PZ-141_020311_01 (SDG: 280-12215-1)
X	Field blanks	SW	FB=FB-011411-19 (280-11638-1), EB=EB_PZ-141_020311 (SDG: 280-12215-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-141_020311_03	11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25099A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		pH TDS (Cl F NO_3 NO_2 SO_4 PO_4) ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 (BC)
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 25099A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: CRZ
2nd Reviewer: [illegible]

METHOD: Inorganics, EPA Method See Cover

(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks? Reason: F

Blank units: mg/L **Associated sample units: mg/L**
Sampling date: 1/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_011411_19 (SDG: 280-11638-1)		No Qualifiers (>5x)							
Sulfate	0.37	1.85								

Sampling date: 2/3/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: All

Analyte	Blank ID	Action Limit	Sample Identification							
	EB_PZ-141_020311 (SDG: 280-12215-1)		No Qualifiers (>5x)							
Fluoride	0.067	0.335								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC# 25099A6

VALIDATION FINDINGS WORKSHEET

~~Field Duplicates~~
Split

Reviewer: JC
2nd Reviewer: MV

Inorganics, Method See Cover

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	PZ-141_020311_01	1		
Bromide	0.18	0.36	67	NQ (<5x RL)
Fluoride	0.34	0.45	28	
Chloride	70	78	11	
Nitrate	1.0	0.32	103	NQ (<5x RL)
Sulfate	310	320	3	

V:\FIELD DUPLICATES\FD_inorganic\25099A6.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 26, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUB0547

Sample Identification

PZ_141_020311_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB_PZ-141_020311	2/3/11	Formaldehyde	15 ug/L	PZ-141_020311_03

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_011411_19	1/14/11	Formaldehyde	21 ug/L	PZ-141_020311_03

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0547	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ_141_020311_03 and PZ_141_020311_01 (from SDG 280-12215-1) were identified as split samples. No formaldehyde was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RS-33_111810_01	RS-33_111810_03			
Formaldehyde	15	31U	67 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG IUB0547

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0547	PZ-141_020311_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG IUB0547

No Sample Data Qualified in this SDG

LDC #: 25099A71 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/21/11
SDG #: IUB0547 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: ~

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/03/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	N	Client spec
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates / Split	SW	S = 1 + PZ-141_020311_01 (from 280-12215-1)
X.	Field blanks	SW	EB = EB_PZ-141_020311 ↓ FB = FB-0119.11-19 (from 280-11638-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	PZ-141_020311_03	11	W 1B0217-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: (from Work)

LDC #: 25099A71

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JV6
2nd Reviewer:

METHOD: _ GC / HPLC
Y N N/A Were field blanks identified in this SDG?
Y/N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: ug/L
Sampling date: 2/03/11 ; 1/14/11
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: 1 (ND)

Compound	FB-011411-19 Blank ID	EB_PZ-14L_020311 Blank ID	Sample Identification							
	1/14/11	2/03/11								
Formaldehyde	21	15								
CRQL										

Blank units: _____ Associated sample units: _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:
Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#:25099A71

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: MC
2nd Reviewer: 1

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	PZ-141_020311_01	PZ-141_020311_03		
Formaldehyde	15	30U	67	NQ

V:\FIELD DUPLICATES\25099A71(FS).wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 3, 2011

LDC Report Date: March 26, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUB0547/HAL73

Sample Identification

PZ_141_020311_03
PZ_141_020311_03MS
PZ_141_020311_03MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EAP SW 846 Method 8315A modified for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method.

Sample EB_PZ-141_020311 (from SDG 280-12215-1) was identified as an equipment blank. No hydrazine contaminants were found in this blank.

Sample FB_011411_19 (from SDG 280-11638-1) was identified as a field blank. No hydrazine contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0547/HAL73	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples PZ_141_020311_03 and PZ_141_020311_01 (from SDG 280-12215-1) were identified as split samples. No hydrazines were detected in any of the samples

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Data Qualification Summary - SDG IUB0547/HAL73

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0547/HAL73	PZ-141_020311_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG IUB0547/HAL73

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG IUB0547/HAL73

No Sample Data Qualified in this SDG

LDC #: 25099A76 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/21/11

SDG #: IUB0547/HAL73 Level V Page: 1 of 1

Laboratory: Test America, Inc./Lancaster Laboratories Reviewer: CR

SW846 8315A Modified 2nd Reviewer: V

METHOD: ~~HPLC~~ Hydrazines (~~Method DVWC-0077~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/3/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	
IVb.	Matrix spike/Matrix spike duplicates	A	MS/D
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	~~Field~~ Split duplicates	ND	C1, PZ-141-020311-01 (SDG: 280-122151-1)
X.	Field blanks	ND	FB= FB011411_19, EB= EB_PZ-141_020311 (SDG: 280-116358-1) (SDG: 280-122151-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1	PZ-141_020311_03	11		21		31	
2	MS	12		22		32	
3	MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25099 76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: CR
2nd reviewer: V

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
QC-2,3		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
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		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
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		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 1st Qtr, 2011
Collection Date:	February 7, 2011
LDC Report Date:	March 26, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level IV
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	IUB0995

Sample Identification

SH-09_020711_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 30.0% for all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 30.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria with the following exceptions:

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-Trichloropropane was found in the method blanks.

Sample TB_SH-09_020711 (from SDG 280-12282-1) was identified as a trip blank. No 1,2,3-Trichloropropane was found in this blank.

Sample EB_SH-09_020711 (from SDG 280-12282-1) was identified as an equipment blank. No 1,2,3-Trichloropropane was found in this blank.

Sample FB_SH-09_020711_19 (from SDG 280-12282-1) was identified as a field blank. No 1,2,3-Trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0995	All compounds reported below the RL.	J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Samples SH-09_020711_03 and SH-09_020711_01 (from SDG 280-12282-1) were identified as split samples. No 1,2,3-Trichloropropane was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-09_020711_01	SH-09_020711_03			
1,2,3-Trichloropropane	0.0035	0.0053	41 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG IUB0995

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0995	SH-09_020711_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*XII)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG IUB0995

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG IUB0995

No Sample Data Qualified in this SDG

LDC #: 25099B1c

SDG #: IUB0995

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 3/18/11

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/07/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%RSD ≤ 20%
IV.	Continuing calibration/ICV	A	CCV/ICV ≤ 30%
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates/Lab Dup	N / A	1B 090648-01
VIII.	Laboratory control samples	A	LCS/b
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates (Split	SW	S = 1 + SH-09_020711_01 (from 280-12282-1)
XVII.	Field blanks	ND	FB = FB_SH-09_020711_19 TB = TB_SH-09_020711 EB = EB_SH-09_020711

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	SH-09_020711_03	11	W1B0636-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 25099 B1C
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: [illegible]

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) < 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) < 30%?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?			✓	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates / Lab Dup				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			

LDC #: 25099 B1C
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within +/-40% from the associated calibration standard?	✓			
Were retention times within - 30% of the last continuing calibration or +/- 50% of the initial calibration?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?		✓		
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 25 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates ✓ Split				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC#:25099B1c

VALIDATION FINDINGS WORKSHEET
Field Splits

Reviewer: JW
2nd Reviewer: [illegible]

METHOD: GC MS 1,2,3-Trichloropropane (EPA Method 524.2)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤35%)	Qualifications (Parent only)
	SH-09_020711_01	SH-09_020711_03		
1,2,3-Trichloropropane	0.0035	0.0053	41	NQ

V:\FIELD DUPLICATES\25099B1c(FS).wpd

LDC #: 25099 B1C

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS 1,2,3-Trichlopropane (EPA Method 524.2)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL GCMS 4	2/07-08/11	1,2,3-TCP (1,2,3-TCP-d5)	0.959	0.959	0.989	0.989	10.96	10.96

Conc IS/Cpd	Area cpd	Area IS
50/50	767	800

Conc (ng/L)	1,2,3-TCP
5	1.225
10	1.045
20	0.999
30	0.965
50	0.959
75	0.930
100	0.898
200	0.889
X =	0.989
S =	0.108

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 25099 #1C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS 1,2,3-Trichlopropane (EPA Method 524.2)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound,
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial)	Reported RRF (CCV)	Recalculated RRF (CCV)	Reported % D	Recalculated %D
1			Sample analyzed right after ICAL					

Cis/Cx	Ax	Ais

LDC #: 25099 B1C
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: WI B0C36-BS1/BSD1

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,2,3-TCP										
1,1-Dichloroethene	0.005	0.005	0.00575	0.00532	119	119	106	106	11	11
Trichloroethene										
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25091 B1C
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #1, 1,2,3-TCP

Conc. = $\frac{(82)(50)(\quad)}{(788)(0.989)(1000)(\quad)}$

= 0.00526

≈ 0.0053 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 1st Qtr, 2011

Collection Date: February 7, 2011

LDC Report Date: March 26, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level IV

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IUB0995

Sample Identification

SH-09_020711_03

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at the required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample EB_SH-09_020711 (from SDG 280-12282-1) was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_SH-09_020711_19 (from SDG 280-12282-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
W1B0513-BLK1	Not specified	Dichlorobiphenyl acetic acid	38 (56-156)	All TCL compounds	J (all detects) UJ (all non-detects)	P

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG IUB0995	All compounds reported below the RL.	J (all detects)	A

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples SH-09_020711_03 and SH-09_020711_01 (from SDG 280-12282-1) were identified as split samples. No herbicides were detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
Herbicides - Data Qualification Summary - SDG IUB0995

SDG	Sample	Compound	Flag	A or P	Reason (Code)
IUB0995	SH-09_020711_03	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (*IX)

Boeing SSFL GW 1st Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG IUB0995

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG IUB0995

No Sample Data Qualified in this SDG

LDC #: 25099B5
SDG #: IUB0995
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level IV

Date: 3/18/11
Page: 1 of 1
Reviewer: JVC
2nd Reviewer: [signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 2/07/11
IIa.	Initial calibration	A	%RSD ≤ 20% r2
IIb.	Calibration verification/ICV	A	CCV/ICV ≤ 20%
III.	Blanks	A	
IVa.	Surrogate recovery	SW	
IVb.	Matrix spike/Matrix spike duplicates	N	client spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	A	
VI.	Compound Quantitation and CRQLs	A	
VII.	System Performance	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates (split	ND	S = 1 + SH-09_020711_01 (280-12282-1)
X.	Field blanks	ND	FB = FB_SH-09_020711_19 EB = EB-SH-09_020711

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	SH-09_020711_03	11	W1B0513-BLK1	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: 2,4-D ; 2,4,5-TP ; 2,4,5-T ; Dinoseb (from work)

LDC #: 25099 B5 **VALIDATION FINDINGS CHECKLIST**

Reviewer: JVC
2nd Reviewer:

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	✓			
Did the initial calibration meet the curve fit acceptance criteria?	✓			
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20%.0 or percent recoveries 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?		✓		
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?		✓		
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				

Validation Area	Yes	No	NA	Findings/Comments
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates ✓ Split				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.		✓		
XV. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

LDC #: 25099B5

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: ✓ GC ___ HPLC
Are surrogates required by the method? Yes ✓ or No ___.
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were surrogates spiked into all samples and blanks?
Y N N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	WIB0513-BLK1	NS	Q	38 (56 - 156)	J/UJ/P (S)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	1-Chlorooctadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin		
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate		
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 25099 B5

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where:
A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (200 std)	Recalculated CF (200 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	2/16/2011	2,4-D (Signal 1)	4944000	4943678	4743000	4743000	9.17	9.17
	GC07		2,4-D (Signal 2)	1668000	1667923	1711000	1711000	8.76	8.76

Conc	Signal 1	Signal 2
200	988735575	333584655

2,4-D

Conc	Signal 1	Signal 2
50	4917000	1930000
100	5266000	1823000
200	4944000	1668000
400	4681000	1657000
1000	4678000	1693000
2000	3972000	1495000
X =	4743000	1711000
S =	435135.8409	149833.2406

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25099 B5

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = 100 * (N - C)/N

Where: N = Initial Calibration Factor or Nominal Amount
C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

#	Standard ID	Calibration Date	Compound	Conc (Actual)	Reported Conc (CC)	Recalculated Conc (CC)	Reported %D	Recalculated %D
1	02161121		2,4-D (Signal 1)	400.000	449.683	449.675	12.42	12.42
			2,4-D (Signal 2)	400.000	412.959	412.973	3.24	3.24

Compound	CF	Area CCV1
2,4-D (Signal 1)	4743000	2132808641
2,4-D (Signal 2)	1711000	706597152

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25099 B5
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JM
2nd reviewer:

METHOD: / GC __ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
DCAA	Signal 2	2000	2511.9	126	126	0

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 25099 B5

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: ___ GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: W1B0513-BS1/BSD1

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)	4.00	4.00	2.60	3.24	65	65	81	81	22	22
Dinoseb (8151)	2.00	2.01	1.25	1.57	63	63	76	76	19	19
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25099175

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name MD

Concentration =_____

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

Second Quarter 2011

APPENDIX B
QUALITY ASSURANCE ASSESSMENT

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Table B-3 Summary of Second Quarter 2011 Data Qualification

LIST OF ATTACHMENTS

Attachment 1 Data Validation Reports

LIST OF ACRONYMS AND ABBREVIATIONS

EPA	(United States) Environmental Protection Agency
GRO	Gasoline range organics
HPLC	High performance liquid chromatography
LCS/LCSD	laboratory control sample/laboratory control sample duplicate
LDC	Laboratory Data Consultants
MCL	maximum contaminant level
MDL	method detection limit
mg/L	milligrams per liter
MS/MSD	matrix spike/matrix spike duplicate
NDMA	N-nitrosodimethylamine
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RL	reporting limit
RPD	relative percent difference
SDG	sample delivery group
SSFL	Santa Susana Field Laboratory
SMOU	Surficial Media Operable Unit
µg/L	micrograms per liter
VOCs	volatile organic compounds
WQSAP	Water Quality Sampling and Analysis Plan

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1.0 OVERVIEW

Field and laboratory data were reviewed for consistency with the procedures outlined in the *Groundwater Monitoring Quality Assurance Project Plan (QAPP), Santa Susana Field Laboratory* (Appendix B of Haley & Aldrich, 2010) following the second quarter 2011 quarterly groundwater sampling event. Results of the review are discussed in the following sections.

2.0 INTRODUCTION

2.1 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PROCEDURES

Following each quarterly groundwater sampling event, field and laboratory data are reviewed for consistency with procedures outlined in the *Groundwater Monitoring Quality Assurance Project Plan, Santa Susana Field Laboratory* (Appendix B of Haley & Aldrich, 2010). As the project develops, it is anticipated that the quality assurance assessment conducted following each quarterly event may be modified. The current procedures include reviewing (a) field forms and documentation and evaluating whether field data were complete, and (b) analytical laboratory data for precision, accuracy, representativeness, comparability, completeness, and sensitivity.

Groundwater samples were submitted to the following laboratories:

Laboratory	Abbreviation	Location
TestAmerica-Denver (Primary)	TA-Denver	Arvada, Colorado
TestAmerica-Irvine (Split)	TA-Irvine	Irvine, California

2.2 PROCEDURES FOR COLLECTION OF QUALITY CONTROL SAMPLES

The following QC samples were collected as part of the Groundwater Monitoring Program in order to ensure that all groundwater sample analysis results are consistent with the QA objectives.

- **Field duplicates:** Duplicate samples are replicate groundwater samples collected from a given well. Both duplicate samples are submitted to the primary laboratory, but one of them is submitted as a "regular" sample, while the other is submitted as a "blind" duplicate. Field duplicates should be collected at a rate of approximately five percent of the total number of primary field samples, per method, for each sampling event.

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- **Split Samples:** Split samples are replicate groundwater samples collected from a given well. One of the split samples is submitted to the primary laboratory and the other to the "split laboratory" for separate analysis and reporting. Split samples should be collected at a rate of five percent of the total number of primary field samples, per method, for groundwater samples collected per the SMOU RFI QAPP (MECx, 2009). If there is a change in the primary laboratory or when verification sampling is required, then split samples should be collected at a rate of once per year, per method, for groundwater samples collected per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010).
- **Field Blanks:** Field blank samples are prepared in the field using High Performance Liquid Chromatography (HPLC) grade water and are "collected" by filling the same type of sample containers as those used for the groundwater samples. Field blanks are then stored with field samples. In this manner, field blanks are intended to assess the potential introduction of contaminants from the source water or ambient air, cross contamination between field samples, and/or artifacts in sample containers. One field blank should be submitted per batch of water used for equipment rinse blanks.
- **Equipment Rinse Blanks:** Equipment rinse blank samples are prepared using HPLC grade water that has been used to rinse non-dedicated sampling equipment after decontaminating the equipment. Per the SMOU RFI QAPP (MECx, 2009), equipment rinse samples should be collected on a daily basis when non-dedicated sampling equipment are used to collect groundwater samples and the equipment rinse blank samples should be analyzed for each parameter analyzed in the field samples. Per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010), equipment rinse blanks should be collected once per sampling event for any parameter analyzed in groundwater samples collected using non-dedicated sampling equipment.
- **Trip Blanks:** Trip blank samples are prepared in the laboratory using de-ionized water. The prepared trip blank samples are shipped from the laboratory with the empty sample containers to the field site and are stored and shipped with the collected samples and are returned to the laboratory unopened. A trip blank is used to assess the potential introduction of contaminants from sample containers or during the transportation and storage process. One trip blank should be carried in each cooler containing field samples for volatile organic compounds (VOCs) and gasoline range organics (GRO) analysis. Trip blank samples will be analyzed for VOCs or GRO.
- **Matrix Spike/Matrix Spike Duplicates:** A matrix spike (MS) is an aliquot of a field sample spiked with a known concentration of all target analytes. A matrix spike duplicate (MSD) is a replicate of this process. Typically, three times the number of sample containers are filled with groundwater collected from a given well in order to provide sufficient volume of sample for MS/MSD preparation and analysis. MS/MSDs should be collected at a rate of approximately five percent of the total number of samples collected, by method, for each sampling event.

2.3 SAMPLE CUSTODY

Chain-of-custody forms were completed by MWH personnel during the performance of sampling activities conducted at SSFL, as per the processes described in the QAPPs. These

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external chain-of-custody documents were completed appropriately upon sample transfer to analytical laboratory personnel.

2.4 DATA VERIFICATION PROCESS

Hardcopy data packages and electronic data were provided to Laboratory Data Consultants, Inc. (LDC) of Carlsbad, California, who initially performed a Level V review of the data. This encompassed an evaluation of sample collection procedures, holding times, blanks (to assess contamination), sample duplicates (to assess precision), laboratory control samples (LCS) (to assess accuracy), and MS and surrogate recoveries (to assess accuracy and matrix effects). Under MWH direction, LDC provided a comprehensive Level IV data review of verification samples, new detections, and results that appear to be inconsistent with historical trends or current understanding of transport and fate of chemical constituents. The Level IV validation included a complete review of summary information for instrument calibrations (to assess performance), compound identification, and quantitation, in addition to the Level V items.

Data were assessed in accordance with guidance from the *US Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review* (Office of Solid Waste and Emergency Response [OSWER] 9240.1-34, USEPA-540-R-00-006, June 2001), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (OSWER 9240.1-46, USEPA-540-R-08-01, June 2008), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA 540-R-04-004, 2004a), *Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual* (USEPA, 2004b), and the EPA method-specific protocol criteria, where applicable.

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3.0 QA/QC EVALUATION

3.1 FIELD DATA

3.1.1 Pre-Sampling Water Levels

During the second quarter 2011 sampling event, a total of 345 wells, piezometers, or seeps were scheduled for water level monitoring. Monitoring attempts are summarized below. Fifteen wells, piezometers, or seeps were not monitored because:

- The vault was welded shut to prevent surface water from infiltrating the well (two wells);
- The flowing artesian well configuration was incompatible with the use of a pressure gauge/transducer (six wells);
- The flowing seep was incompatible with the use of a pressure gauge/transducer (two seeps);
- Downhole access for measurement not available at off-site private well (one well);
- A partially removed FLUTe system prevented access for measurement (one well);
- Datalogger not installed at FLUTe well (one well); and
- Pressure transducers installed in FLUTe wells were inoperable (two wells)

Water Level Monitoring	First Quarter 2011
Number of locations scheduled	345
Number of locations monitored	330
Completeness value	96%

Percent completeness (% C) values presented in this summary were calculated using the following equation:

$$\% C = \frac{\text{Number of Valid (Usable) Measurements}}{\text{Number of Measurements Planned}} \times 100$$

3.1.2 Groundwater Sample Collection

During the second quarter 2011 sampling event, 137 wells, seeps, or piezometers were scheduled for sampling. Of the locations scheduled for sampling, 108 wells or piezometers (79 percent) were sampled. Samples were not collected at a number of locations because the wells or piezometers were either dry, contained inadequate water for sampling purposes, the low-flow well equipment could not be installed, or the wells were not yet constructed.

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piezometers were either dry, contained inadequate water for sampling purposes, the low-flow well equipment could not be installed, or the wells were not yet constructed.

A sampling completeness of 100 percent was achieved for those wells that could be sampled versus those that were scheduled or planned to be collected in the second quarter of 2011.

3.1.3 QA/QC Sample Collection

The QA/QC sample collection targets are listed in the QAPP (Haley & Aldrich, 2010) and the SMOU RFI QAPP (MECx, 2009). During the second quarter 2011, the QA/QC sample collection targets were met except where wells contained insufficient volume or inadequate quality for sampling.

Percent Completeness for QA/QC Sample Collection

QC Sample Type	QAPP (Haley & Aldrich, 2010)	SMOU RFI QAPP (MECx, 2009)
Duplicate samples	97%	100%
Split samples	100%	86%
MS/MSD samples	90%	100%
Trip blanks	100%	
Field blanks	100%	100%
Equipment rinse blank	100%	100%

The percent completeness for SMOU RFI split samples was 86 percent, which did not meet the project goal of 90 percent. The project completeness goal was not met due to samples that were not analyzed for hexavalent chromium. Advanced notice was not provided to TestAmerica-Irvine that samples to be analyzed for total and dissolved hexavalent chromium would be arriving on Saturday, April 23, 2011, and therefore did not have an analyst working that day. The samples were logged in at the laboratory the following Monday, after the 24-hour holding time for hexavalent chromium had been exceeded three-fold. Hexavalent chromium has historically been non-detect at the sample location (PZ-140), and non-detect results are rejected during validation when there is a gross exceedance of the holding time, so the analyses were canceled. In order to prevent this in the future, the Daily Quality Control Reports submitted by field personnel will be updated to include a list of wells to be sampled the following day; this will ensure that the laboratories will have enough notice to staff the appropriate analysts.

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3.1.4 Water Quality Parameter Measurements

Water quality parameters (pH, oxidation reduction potential [ORP], dissolved oxygen [DO], electrical conductivity, and turbidity) are scheduled to be measured according to the WQSAP (Haley & Aldrich, 2010). All exceptions for the second quarter of 2011 sampling event are listed on Table 7 located in the main body of this report.

3.2 ANALYTICAL DATA

All laboratories used for this program are certified by the California Department of Public Health Environmental Laboratory Accreditation Program.

3.2.1 Comparison with Historical Water Quality Data

The majority of analyte concentrations increased or decreased somewhat when compared to the results from the prior monitoring event, but most values were within the range of historical data. A summary of results is included in Section 3 of this report.

Verification sampling is conducted when there is a newly detected constituent of concern, or when a constituent of concern is detected above the Regulatory Reference Values (defined in Table 9 of the main body of this report) in samples collected from Regulated Unit Detection monitoring wells. Verification sampling consists of collecting a primary sample, field duplicate, split sample, equipment rinse sample (non-dedicated equipment only), and a field blank sample and analyzing each for the constituent(s) of concern.

Seven monitoring wells were sampled during the second quarter 2011 to verify new detections. Results of verification sampling are summarized in Table 21 of the main body and Section 3 of this report.

3.2.2 Laboratory Performance Comparison

Results of analyses across laboratories were comparable as indicated by the relative percent differences (RPDs) of split samples (Table B-1). The RPDs were calculated for each analyte detected by both the primary and split laboratories if the analytes were detected at a

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concentration exceeding five times their respective reporting limits (RLs). RPDs for the split samples are summarized on Table B-1.

$$RPD = \left| ((X_1 - X_2)/X_{ave}) \right| \times 100$$

X_1 =value of first result;
X_2 = value of second result; and
X_{ave} = average concentration = $((X_1 + X_2) / 2)$

All RPDs calculated for second quarter 2011 split samples were less than the project acceptance criterion of 35.

3.2.3 Field Duplicate Sample Precision

The RPDs of field duplicate samples are calculated for all analytes detected in both the primary and duplicate samples and are summarized on Table B-2. The RPDs were calculated for each analyte detected by both the primary and split laboratories if the analytes were detected at a concentration exceeding five times their RLs. The RPD values calculated for second quarter 2011 field duplicate sample analyses were acceptable and below the project acceptance criterion of 35 with the exception of n-nitrosodimethylamine (NDMA) in SH-03. NDMA was qualified per the Groundwater Monitoring QAPP (Haley & Aldrich, 2010).

3.2.4 Blank Accuracy

The method detection limits (MDLs) reported for analytes in field blanks, equipment rinse blanks, and trip blanks were compared to the RL requirements defined in the Groundwater Monitoring (Haley & Aldrich, 2010) and SMOU RFI (MECx, 2009) QAPPs. As required by the project, the MDLs in the blank samples were less than the required RLs, with the following exceptions:

Constituent	QAPP RL Requirement	Laboratory MDL
pH	0.01 pH Units	0.1 pH Units
Orthophosphate-PO4	0.2 milligrams per liter (mg/L)	0.57 mg/L
Dissolved antimony (Method 6010B)	0.002 mg/L	0.0031 mg/L

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Although the MDLs listed above do not meet the QAPP RL criteria, they represent the laboratory's lowest achievable detection limits.

As defined in Table 9, the regulatory limit is 8.5 pH units for pH (California Secondary Maximum Contaminant Level [MCL]) and 0.006 mg/L for antimony (California MCL); both are significantly higher than the laboratory RL. Additionally, there is no regulatory limit established for orthophosphate. Therefore, data usability is not affected by the laboratory's inability to meet QAPP requirements.

3.2.5 Data Representativeness, Reproducibility, and Completeness

Data representativeness, reproducibility, and completeness of results were evaluated by verifying the following:

- Locations were sampled as scheduled,
- Samples were properly collected and preserved (if required),
- Procedures to maintain the integrity of samples during shipment were followed,
- Sample dilutions were properly conducted,
- Chain-of-custody records were complete when submitted or changed appropriately, and
- Laboratory QA/QC data were obtained for each sample submitted.

Locations were sampled as scheduled except where wells contained insufficient water volume or where wells were inaccessible. All samples were preserved (where necessary) and shipped following acceptable procedures. Samples from wells with previous trichloroethene concentrations exceeding 3,000 micrograms per liter (µg/L) were segregated during storage and shipment.

A few chain-of-custody forms were not completed satisfactorily. Because the laboratories were notified of the deficiencies immediately following sample submission, all samples submitted were identified correctly and analyzed according to the monitoring schedule. In order to minimize future errors, field personnel were notified of the chain-of-custody form deficiencies.

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All samples were received appropriately, identified correctly, and analyzed according to the monitoring requirements.

3.2.6 Data Usability Summary

LDC provided a comprehensive data verification report for each data package that summarized laboratory and project criteria that were not met, and sample results requiring qualification due to QC discrepancies. The verification reports were reviewed by MWH to ensure the verification procedures as described in the QAPPs were followed. The final validated and flagged data were reviewed by the project chemist and team to assess against the project data quality objectives (DQOs) to determine data usability.

3.2.6.1 Sample Data Reporting

Laboratory analytical reports contain laboratory specific data qualifiers. When an analysis was performed without dilution, the RL was based on the most recent MDL study conducted by the contract laboratory. The RL values for the dilution analyses were adjusted for the level of dilution performed. Values presented for target analytes detected at concentrations below the RL but above the MDL were flagged with a "J" as estimated values.

3.2.6.2 Data Qualifiers

The use of data qualifiers is intended to aid users in their interpretation of the sample results. Laboratory-specific data qualifiers were assigned by the laboratories to the reported results in accordance with each laboratory's standard operating procedures. However, some data qualifiers used by the laboratories do not correspond with standard EPA guidance as referenced in this document. The recommended EPA data qualifiers should preclude the use of the laboratory-specific qualifiers so that comparability of the reported results can be achieved if future analyses are performed at other laboratories.

The following is a summary of the data verification/validation qualifiers used in the review:

Qualifier	Description
J	The result is estimated.
R	The result is rejected.

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U	The result is not detected above the MDL or reporting limit RL.
UJ	The result is not detected; however, the MDL or RL is qualified as estimated.

3.2.6.3 Summary

All final qualified results summarized on Table B-3 were found to be compliant with the DQOs for the project and are usable for the intended purpose as specified in the WQSAP (Haley & Aldrich, 2010).

4.0 REFERENCES

MECx, LP, 2009. "Quality Assurance Project Plan", Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit, Revision 4, March.

Haley & Aldrich, Inc., 2009. "Draft Site-wide Water Quality Sampling and Analysis Plan", Santa Susana Field Laboratory, Ventura County, California, Revision 1, File No. 20080/M489, December.

Paar, J.G., and D.R. Porterfield, 1997. "Evaluation of Radiochemical Data Usability" es/er/ms-5, April.

------, 2004. "U.S. Environmental Protection Agency, 2004. Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP)". July.

------, 2004. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", OSWER 9240.1-35, EPA 540-R-04-004, October.

------, 2008a. "Test Methods for Evaluation Solid Waste, Physical/Chemical Methods", SW-846, 3rd Edition, Update IV, EPA-HQ-RCRA-2006-0833; FRL-8513-2, January.

------, 2008b. "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", OSWER 9240.1-46, USEPA-540-R-08-01, June.

------, 2008. "Maximum Contaminant Levels and Regulatory Dates for Drinking Water U.S. EPA vs. California." http://www.cdph.ca.gov/certlic/drinkingwater/Documents/DWdocuments/EPAandCDPH-11-28-2008.pdf, updated November.

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TABLE

TABLE B-1
SUMMARY OF SECOND QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

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Well ID	Collection Date	Analytical Method	Parameter	Split Sample Result		Primary Sample Result		Units	RPD
HAR-04	04/20/11	EPA 300.0	Fluoride	0.68		0.88		mg/L	NA
HAR-04	04/20/11	EPA 300.0	Nitrate-NO3	5.5		5.9		mg/L	NA
HAR-04	04/20/11	EPA 9040B	pH	6.9		6.65	J	pH Units	3.7
HAR-04	04/20/11	EPA 6860	Perchlorate	1.5		1.5		µg/L	0.0
HAR-04	04/20/11	EPA 314.0	Perchlorate	1.9	J	1.5	J	µg/L	NA
HAR-04	04/20/11	EPA 8260B	cis-1,2-Dichloroethene	8.6		7.6		µg/L	12
HAR-04	04/20/11	EPA 8260B	1,1,1-Trichloroethane	0.53	J	0.54	J	µg/L	NA
HAR-04	04/20/11	EPA 8260B	Trichloroethene	140		100		µg/L	33
HAR-04	04/20/11	DV-WC-0077	Hydrazine	0.05	U	0.68	J	µg/L	NA
HAR-04	04/20/11	DV-WC-0077	Monomethylhydrazine	0.25	U	0.78	J	µg/L	NA
HAR-04	04/20/11	EPA 6020	Nickel	0.0005	U	0.00061	J	mg/L	NA
HAR-04	04/20/11	EPA 6020	Nickel, Dissolved	0.0005	U	0.00044	J	mg/L	NA
HAR-04	04/20/11	EPA 6020	Antimony, Dissolved	0.0003	U	0.000081	J	mg/L	NA
HAR-04	04/20/11	EPA 6020	Arsenic	0.0009	U	0.00041	J	mg/L	NA
HAR-04	04/20/11	EPA 6020	Arsenic, Dissolved	0.0009	U	0.00043	J	mg/L	NA
HAR-04	04/20/11	EPA 6020	Barium	0.025		0.027		mg/L	7.7
HAR-04	04/20/11	EPA 6020	Barium, Dissolved	0.028		0.026		mg/L	7.4
HAR-04	04/20/11	EPA 6020	Chromium	0.00099	J	0.0005	U	mg/L	NA
HAR-04	04/20/11	EPA 6020	Cobalt	0.0001	U	0.00005	J	mg/L	NA
HAR-04	04/20/11	EPA 6020	Cobalt, Dissolved	0.0001	U	0.000036	J	mg/L	NA
HAR-04	04/20/11	EPA 6020	Copper, Dissolved	0.00067	J	0.00056	U	mg/L	NA
HAR-04	04/20/11	EPA 6020	Vanadium	0.0008	U	0.00092	J	mg/L	NA
HAR-04	04/20/11	EPA 6020	Vanadium, Dissolved	0.00083	J	0.00075	J	mg/L	NA
PZ-140	04/21/11	EPA 300.0	Sulfate	130		130		mg/L	0.0
PZ-140	04/21/11	EPA 300.0	Chloride	130		140		mg/L	7.4
PZ-140	04/21/11	EPA 300.0	Fluoride	0.55		0.45	J	mg/L	NA
PZ-140	04/21/11	EPA 300.0	Bromide	0.82		0.45	J	mg/L	NA
PZ-140	04/21/11	EPA 300.0	Nitrate-NO3	11	J	11		mg/L	NA
PZ-140	04/21/11	EPA 8260B	cis-1,2-Dichloroethene	7.3		7.1		µg/L	2.8
PZ-140	04/21/11	EPA 8260B	Benzene	0.34	J	0.36	J	µg/L	NA
PZ-140	04/21/11	EPA 8260B	Trichloroethene	140		130	J	µg/L	7.4
PZ-140	04/21/11	EPA 8270C	bis(2-Ethylhexyl) phthalate	3.8	U	1	J	µg/L	NA
PZ-140	04/21/11	EPA 8270C SIM	Diethyl phthalate	3.3	U	0.095	J	µg/L	NA
PZ-140	04/21/11	EPA 6010B	Magnesium, Dissolved	39		37		mg/L	5.3
PZ-140	04/21/11	EPA 6020	Manganese, Dissolved	0.066		0.071		mg/L	7.3
PZ-140	04/21/11	EPA 6020	Molybdenum, Dissolved	0.003		0.0025		mg/L	18
PZ-140	04/21/11	EPA 6020	Nickel, Dissolved	0.0026		0.0035		mg/L	NA
PZ-140	04/21/11	EPA 6010B	Potassium, Dissolved	3.1		3.3		mg/L	NA
PZ-140	04/21/11	EPA 6010B	Sodium, Dissolved	71		74		mg/L	4.1
PZ-140	04/21/11	EPA 6020	Thallium, Dissolved	0.0002	U	0.000037	J	mg/L	NA
PZ-140	04/21/11	EPA 6010B	Antimony, Dissolved	0.00051	J	0.0031	U	mg/L	NA
PZ-140	04/21/11	EPA 6020	Arsenic, Dissolved	0.0009	U	0.00069	J	mg/L	NA

TABLE B-1
SUMMARY OF SECOND QUARTER 2011 SPLIT SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

.

Well ID	Collection Date	Analytical Method	Parameter	Split Sample Result		Primary Sample Result		Units	RPD
PZ-140	04/21/11	EPA 6020	Barium, Dissolved	0.059		0.061		mg/L	NA
PZ-140	04/21/11	EPA 6010B	Boron, Dissolved	0.053		0.047	J	mg/L	NA
PZ-140	04/21/11	EPA 6020	Cadmium, Dissolved	0.00012	J	0.000063	J	mg/L	NA
PZ-140	04/21/11	EPA 6020	Cobalt, Dissolved	0.00058	J	0.00054	J	mg/L	NA
PZ-140	04/21/11	EPA 6020	Copper, Dissolved	0.0005	J	0.00056	U	mg/L	NA
PZ-140	04/21/11	EPA 6020	Vanadium, Dissolved	0.00086	J	0.0011	J	mg/L	NA
PZ-140	04/21/11	EPA 6010B	Calcium, Dissolved	130		110		mg/L	17
PZ-140	04/21/11	EPA 6020	Selenium, Dissolved	0.0015	J	0.0013	J	mg/L	NA
SH-11	04/06/11	EPA 8270C	Diethyl phthalate	3.4	U	0.46	J	µg/L	NA

RPDs are only calculated when an analyte is detected in both the primary and split samples at concentrations exceeding five times their RLs.

NOTES AND ABBREVIATIONS

µg/L - micrograms per liter
mg/L - milligrams per liter
NA - not applicable
RPD - relative percent difference
U - the result is not detected above the method detection limit (MDL) or reporting limit (RL)
J - the result is estimated

TABLE B-2
SUMMARY OF SECOND QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample Result		Primary Sample Result		Units	RPD
ES-17	04/25/11	EPA 1625M	n-Nitrosodimethylamine	0.073		0.082		µg/L	12
ES-26	04/26/11	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	8.5	J	9.3	J	µg/L	NA
ES-26	04/26/11	EPA 350.1	Ammonia-N	0.79		0.77		mg/L	NA
ES-26	04/26/11	EPA 6010B	Calcium	150		150		mg/L	0.0
ES-26	04/26/11	EPA 6010B	Calcium, Dissolved	160		150		mg/L	6.5
ES-26	04/26/11	EPA 300.0	Chloride	100		100		mg/L	0.0
ES-26	04/26/11	EPA 8260B	cis-1,2-Dichloroethene	1.4	J	1.4	J	µg/L	NA
ES-26	04/26/11	EPA 300.0	Fluoride	0.53		0.52		mg/L	NA
ES-26	04/26/11	EPA 6010B	Iron	0.022	U	0.022	J	mg/L	NA
ES-26	04/26/11	EPA 6010B	Magnesium	17		17		mg/L	NA
ES-26	04/26/11	EPA 6010B	Magnesium, Dissolved	18		18		mg/L	NA
ES-26	04/26/11	EPA 6010B	Manganese	0.61		0.6		mg/L	1.7
ES-26	04/26/11	EPA 6010B	Manganese, Dissolved	0.61		0.6		mg/L	1.7
ES-26	04/26/11	EPA 300.0	Nitrate-NO3	2	J	3.1	J	mg/L	NA
ES-26	04/26/11	EPA 9040B	pH	7.58	J	7.75	J	pH Units	2.2
ES-26	04/26/11	EPA 6010B	Potassium	2.6	J	2.5	J	mg/L	NA
ES-26	04/26/11	EPA 6010B	Potassium, Dissolved	2.6	J	2.5	J	mg/L	NA
ES-26	04/26/11	EPA 6010B	Sodium	95		98		mg/L	3.1
ES-26	04/26/11	EPA 6010B	Sodium, Dissolved	99		97		mg/L	2.0
ES-26	04/26/11	SM2510B	Specific conductivity	1200		1200		umhos/cm	0.0
ES-26	04/26/11	EPA 6010B	Strontium	0.82		0.81		mg/L	1.2
ES-26	04/26/11	EPA 6010B	Strontium, Dissolved	0.84		0.83		mg/L	1.2
ES-26	04/26/11	EPA 300.0	Sulfate	200		210		mg/L	4.9
ES-26	04/26/11	SM2320B	Total Alkalinity	310		340		mg/L	9.2
ES-26	04/26/11	SM2540C	Total Dissolved Solids	770		760		mg/L	1.3
ES-26	04/26/11	EPA 8260B	Trichloroethene	5.3	J	5.1	J	µg/L	3.8
ES-26	04/26/11	EPA 180.1	Turbidity	0.25	J	0.3	J	NTU	NA
ES-26	04/26/11	EPA 6010B	Zinc	0.099		0.097		mg/L	NA
ES-26	04/26/11	EPA 6010B	Zinc, Dissolved	0.078		0.077		mg/L	NA
HAR-01	04/20/11	EPA 1625M	n-Nitrosodimethylamine	0.018		0.017		µg/L	NA
HAR-07	04/12/11	EPA 8260B	1,1-Dichloroethene	2.7	J	2.7		µg/L	NA
HAR-07	04/12/11	EPA 350.1	Ammonia-N	0.096	J	0.076	J	mg/L	NA
HAR-07	04/12/11	EPA 6020	Antimony	0.00007	U	0.000084	J	mg/L	NA
HAR-07	04/12/11	EPA 6020	Antimony, Dissolved	0.000071	J	0.00007	U	mg/L	NA
HAR-07	04/12/11	EPA 6020	Arsenic	0.00037	J	0.00039	J	mg/L	NA
HAR-07	04/12/11	EPA 6020	Arsenic, Dissolved	0.00036	J	0.00038	J	mg/L	NA
HAR-07	04/12/11	EPA 6020	Barium	0.017		0.017		mg/L	NA
HAR-07	04/12/11	EPA 6020	Barium, Dissolved	0.016		0.016		mg/L	NA
HAR-07	04/12/11	EPA 8260B	cis-1,2-Dichloroethene	840		740		µg/L	13
HAR-07	04/12/11	EPA 6020	Cobalt	0.00012	J	0.00015	J	mg/L	NA

TABLE B-2
SUMMARY OF SECOND QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample Result		Primary Sample Result		Units	RPD
HAR-07	04/12/11	EPA 6020	Cobalt, Dissolved	0.00011	J	0.000095	J	mg/L	NA
HAR-07	04/12/11	EPA 6020	Copper	0.00065	J	0.00061	J	mg/L	NA
HAR-07	04/12/11	EPA 300.0	Fluoride	0.35	J	0.35	J	mg/L	NA
HAR-07	04/12/11	EPA 6020	Nickel	0.0018	J	0.0019	J	mg/L	NA
HAR-07	04/12/11	EPA 6020	Nickel, Dissolved	0.0015	J	0.0014	J	mg/L	NA
HAR-07	04/12/11	EPA 1625M	n-Nitrosodimethylamine	0.039		0.038		µg/L	2.6
HAR-07	04/12/11	EPA 8290	Octachlorodibenzofuran	6.2	J	6.8	J	pg/L	NA
HAR-07	04/12/11	EPA 9040B	pH	6.82		6.86		pH Units	0.6
HAR-07	04/12/11	EPA 8260B	trans-1,2-Dichloroethene	45		42		µg/L	6.9
HAR-07	04/12/11	EPA 8260B	Trichloroethene	2600		2300		µg/L	12
HAR-07	04/12/11	EPA 6020	Vanadium	0.00028	J	0.00027	J	mg/L	NA
HAR-07	04/12/11	EPA 6020	Vanadium, Dissolved	0.00021	J	0.00022	J	mg/L	NA
HAR-07	04/12/11	EPA 8260B	Vinyl chloride	17		17		µg/L	NA
HAR-07	04/12/11	EPA 6020	Zinc	0.032		0.032		mg/L	NA
HAR-07	04/12/11	EPA 6020	Zinc, Dissolved	0.035		0.033		mg/L	NA
HAR-08	04/19/11	EPA 1625M	n-Nitrosodimethylamine	0.017		0.019		µg/L	NA
HAR-09	04/14/11	EPA 1625M	n-Nitrosodimethylamine	0.005	U	0.005		µg/L	NA
HAR-14	04/15/11	EPA 1625M	n-Nitrosodimethylamine	2.2		2.8		µg/L	24
HAR-16	04/20/11	EPA 8260B	1,1-Dichloroethene	2.2	J	2.2	J	µg/L	NA
HAR-16	04/20/11	EPA 8260B SIM	1,4-Dioxane	1.7	J	1.8	J	µg/L	NA
HAR-16	04/20/11	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.27	J	0.21	U	µg/L	NA
HAR-16	04/20/11	EPA 6020	Arsenic	0.00074	J	0.00077	J	mg/L	NA
HAR-16	04/20/11	EPA 6020	Arsenic, Dissolved	0.00073	J	0.00073	J	mg/L	NA
HAR-16	04/20/11	EPA 6020	Barium	0.01		0.01		mg/L	NA
HAR-16	04/20/11	EPA 6020	Barium, Dissolved	0.0099		0.0098		mg/L	NA
HAR-16	04/20/11	EPA 6010B	Calcium	23		23		mg/L	NA
HAR-16	04/20/11	EPA 6010B	Calcium, Dissolved	23		23		mg/L	NA
HAR-16	04/20/11	EPA 300.0	Chloride	22		22		mg/L	0.0
HAR-16	04/20/11	EPA 8260B	cis-1,2-Dichloroethene	16	J	16	J	µg/L	NA
HAR-16	04/20/11	EPA 6020	Cobalt	0.00004	J	0.000052	J	mg/L	NA
HAR-16	04/20/11	EPA 6020	Cobalt, Dissolved	0.000047	J	0.000044	J	mg/L	NA
HAR-16	04/20/11	EPA 300.0	Fluoride	0.5		0.49	J	mg/L	NA
HAR-16	04/20/11	EPA 6010B	Iron	0.057	J	0.022	U	mg/L	NA
HAR-16	04/20/11	EPA 6010B	Magnesium	4.9	J	4.9	J	mg/L	NA
HAR-16	04/20/11	EPA 6010B	Magnesium, Dissolved	5.1		5.1		mg/L	NA
HAR-16	04/20/11	EPA 6010B	Manganese	0.001	J	0.00045	J	mg/L	NA
HAR-16	04/20/11	EPA 6020	Nickel	0.0016	J	0.00073	J	mg/L	NA
HAR-16	04/20/11	EPA 6020	Nickel, Dissolved	0.00086	J	0.00065	J	mg/L	NA
HAR-16	04/20/11	EPA 300.0	Nitrate-NO3	17		17		mg/L	0.0
HAR-16	04/20/11	EPA 1625M	n-Nitrosodimethylamine	1.2		1.3		µg/L	8.0

TABLE B-2
SUMMARY OF SECOND QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample Result		Primary Sample Result		Units	RPD
HAR-16	04/20/11	EPA 8270C	n-Nitrosodimethylamine	1.6	J	1.8	J	µg/L	NA
HAR-16	04/20/11	EPA 6860	Perchlorate	12		12		µg/L	0.0
HAR-16	04/20/11	EPA 9040B	pH	6.88	J	6.81	J	pH Units	1.0
HAR-16	04/20/11	EPA 6010B	Potassium	0.73	J	0.72	J	mg/L	NA
HAR-16	04/20/11	EPA 6010B	Potassium, Dissolved	0.75	J	0.74	J	mg/L	NA
HAR-16	04/20/11	EPA 6010B	Sodium	51		51		mg/L	0.0
HAR-16	04/20/11	EPA 6010B	Sodium, Dissolved	52		51		mg/L	1.9
HAR-16	04/20/11	SM2510B	Specific conductivity	370		390		umhos/cm	5.3
HAR-16	04/20/11	EPA 6010B	Strontium	0.11		0.11		mg/L	0.0
HAR-16	04/20/11	EPA 6010B	Strontium, Dissolved	0.11		0.11		mg/L	0.0
HAR-16	04/20/11	EPA 300.0	Sulfate	26		26		mg/L	0.0
HAR-16	04/20/11	SM2320B	Total Alkalinity	120		120		mg/L	0.0
HAR-16	04/20/11	SM2540C	Total Dissolved Solids	260		260		mg/L	0.0
HAR-16	04/20/11	EPA 8260B	Trichloroethene	1900	J	1600		µg/L	17
HAR-16	04/20/11	EPA 6020	Vanadium	0.0016	J	0.0016	J	mg/L	NA
HAR-16	04/20/11	EPA 6020	Vanadium, Dissolved	0.0014	J	0.0015	J	mg/L	NA
HAR-16	04/20/11	EPA 6020	Zinc	0.032		0.032		mg/L	NA
HAR-16	04/20/11	EPA 6020	Zinc, Dissolved	0.032		0.033		mg/L	NA
HAR-21	04/13/11	EPA 1625M	n-Nitrosodimethylamine	0.046		0.046		µg/L	0.0
HAR-23	04/19/11	EPA 1625M	n-Nitrosodimethylamine	0.025		0.026		µg/L	3.9
HAR-28	04/12/11	EPA 1625M	n-Nitrosodimethylamine	0.011		0.01		µg/L	9.5
HAR-30	04/28/11	EPA 1625M	n-Nitrosodimethylamine	0.005	U	0.01		µg/L	NA
PZ-035	04/26/11	EPA 1625M	n-Nitrosodimethylamine	0.016		0.0098		µg/L	NA
PZ-144	04/13/11	EPA 8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1.4	U	1.9	J	pg/L	NA
PZ-144	04/13/11	EPA 6020	Arsenic, Dissolved	0.0043	J	0.0044	J	mg/L	NA
PZ-144	04/13/11	EPA 6020	Barium, Dissolved	0.0063		0.01		mg/L	NA
PZ-144	04/13/11	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.44	J	0.55	U	µg/L	NA
PZ-144	04/13/11	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	0.44	J	0.17	J	µg/L	NA
PZ-144	04/13/11	EPA 6010B	Boron, Dissolved	0.071		0.072		mg/L	NA
PZ-144	04/13/11	EPA 6010B	Calcium, Dissolved	37		37		mg/L	0.0
PZ-144	04/13/11	EPA 300.0	Chloride	4.4		4.4		mg/L	NA
PZ-144	04/13/11	EPA 6020	Chromium, Dissolved	0.0005	J	0.00066	J	mg/L	NA
PZ-144	04/13/11	EPA 8270C SIM	Chrysene	0.0035	U	0.0036	J	µg/L	NA
PZ-144	04/13/11	EPA 8270C SIM	Chrysene	0.56	U	0.0036	J	µg/L	NA
PZ-144	04/13/11	EPA 6020	Cobalt, Dissolved	0.000042	U	0.000053	J	mg/L	NA
PZ-144	04/13/11	EPA 8270C	Diethyl phthalate	0.13	J	0.37	U	µg/L	NA
PZ-144	04/13/11	EPA 8270C SIM	Diethyl phthalate	0.4	U	0.47	J	µg/L	NA
PZ-144	04/13/11	EPA 300.0	Fluoride	0.73		0.73		mg/L	NA
PZ-144	04/13/11	7196A	Hexavalent Chromium	0.0081	J	0.011	J	mg/L	NA
PZ-144	04/13/11	7196A	Hexavalent Chromium, Dissolved	0.0047	J	0.004	UJ	mg/L	NA

TABLE B-2
SUMMARY OF SECOND QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample Result		Primary Sample Result		Units	RPD
PZ-144	04/13/11	EPA 6010B	Magnesium, Dissolved	13		13		mg/L	0.0
PZ-144	04/13/11	EPA 6020	Molybdenum, Dissolved	0.014		0.012		mg/L	15
PZ-144	04/13/11	EPA 6020	Nickel, Dissolved	0.00056	J	0.00061	J	mg/L	NA
PZ-144	04/13/11	EPA 300.0	Nitrate-NO3	21		21		mg/L	0.0
PZ-144	04/13/11	EPA 6010B	Potassium, Dissolved	4.8		4.8		mg/L	NA
PZ-144	04/13/11	EPA 6020	Selenium, Dissolved	0.0035	J	0.0037	J	mg/L	NA
PZ-144	04/13/11	EPA 6020	Silver, Dissolved	0.000018	J	0.000015	U	mg/L	NA
PZ-144	04/13/11	EPA 6010B	Sodium, Dissolved	67		68		mg/L	1.5
PZ-144	04/13/11	EPA 300.0	Sulfate	26		26		mg/L	0.0
PZ-144	04/13/11	EPA 6020	Vanadium, Dissolved	0.0051	J	0.0045	J	mg/L	NA
PZ-146	04/29/11	EPA 1625M	n-Nitrosodimethylamine	0.005	U	0.0065	J	µg/L	NA
PZ-154	04/21/11	EPA 1625M	n-Nitrosodimethylamine	0.018		0.016		µg/L	NA
RD-01	04/21/11	EPA 1625M	n-Nitrosodimethylamine	0.0061		0.0077		µg/L	NA
RD-02	04/25/11	EPA 1625M	n-Nitrosodimethylamine	0.0065		0.0064		µg/L	NA
RD-39B	04/08/11	EPA 300.0	Fluoride	0.11	J	0.13	J	mg/L	NA
RD-39B	04/08/11	EPA 8315A	Formaldehyde	18	J	20	J	µg/L	NA
RD-39B	04/08/11	EPA 9040B	pH	8.31		8.31		pH Units	0.0
RD-39B	04/08/11	EPA 8260B	Trichloroethene	0.39	J	0.41	J	µg/L	NA
RD-45A	04/25/11	EPA 1625M	n-Nitrosodimethylamine	0.066		0.066		µg/L	0.0
RD-49B	04/15/11	EPA 8260B	1,1-Dichloroethene	0.64	J	0.58	J	µg/L	NA
RD-49B	04/15/11	EPA 8260B SIM	1,4-Dioxane	2		2.1		µg/L	NA
RD-49B	04/15/11	EPA 350.1	Ammonia-N	0.055	U	0.069	J	mg/L	NA
RD-49B	04/15/11	EPA 8270C	bis(2-Ethylhexyl) phthalate	2.1	J	2.5	J	µg/L	NA
RD-49B	04/15/11	EPA 6010B	Calcium	160		160		mg/L	0.0
RD-49B	04/15/11	EPA 6010B	Calcium, Dissolved	160	J	160	J	mg/L	0.0
RD-49B	04/15/11	EPA 300.0	Chloride	45		45		mg/L	0.0
RD-49B	04/15/11	EPA 8260B	cis-1,2-Dichloroethene	230	J	240	J	µg/L	4.3
RD-49B	04/15/11	EPA 8270C	Di-n-octyl phthalate	0.36	U	2.4	J	µg/L	NA
RD-49B	04/15/11	EPA 300.0	Fluoride	0.22	J	0.22	J	mg/L	NA
RD-49B	04/15/11	EPA 8315A	Formaldehyde	9.5	J	15	J	µg/L	NA
RD-49B	04/15/11	EPA 6010B	Iron	0.9		0.87		mg/L	3.4
RD-49B	04/15/11	EPA 6010B	Iron, Dissolved	0.56		0.53		mg/L	5.5
RD-49B	04/15/11	EPA 6010B	Magnesium	25		25		mg/L	0.0
RD-49B	04/15/11	EPA 6010B	Magnesium, Dissolved	23		23		mg/L	NA
RD-49B	04/15/11	EPA 6010B	Manganese	0.059		0.058		mg/L	1.7
RD-49B	04/15/11	EPA 6010B	Manganese, Dissolved	0.057		0.055		mg/L	3.6
RD-49B	04/15/11	EPA 1625M	n-Nitrosodimethylamine	0.039		0.038		µg/L	2.6
RD-49B	04/15/11	EPA 9040B	pH	7.12		7.17		pH Units	0.7
RD-49B	04/15/11	EPA 6010B	Potassium	4.6	J	4.5	J	mg/L	NA
RD-49B	04/15/11	EPA 6010B	Potassium, Dissolved	4.6	J	4.6	J	mg/L	NA

TABLE B-2
SUMMARY OF SECOND QUARTER 2011 FIELD DUPLICATE SAMPLE RESULTS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Analytical Method	Parameter	Duplicate Sample Result		Primary Sample Result		Units	RPD
RD-49B	04/15/11	EPA 6010B	Sodium	54		54		mg/L	0.0
RD-49B	04/15/11	EPA 6010B	Sodium, Dissolved	53		53		mg/L	0.0
RD-49B	04/15/11	SM2510B	Specific conductivity	1100		1200		umhos/cm	8.7
RD-49B	04/15/11	EPA 6010B	Strontium	0.59		0.58		mg/L	1.7
RD-49B	04/15/11	EPA 6010B	Strontium, Dissolved	0.59		0.59		mg/L	0.0
RD-49B	04/15/11	EPA 300.0	Sulfate	260		260		mg/L	0.0
RD-49B	04/15/11	SM2320B	Total Alkalinity	320		330		mg/L	3.1
RD-49B	04/15/11	SM2540C	Total Dissolved Solids	770		770		mg/L	0.0
RD-49B	04/15/11	EPA 8260B	trans-1,2-Dichloroethene	11	J	11	J	µg/L	0.0
RD-49B	04/15/11	EPA 8260B	Trichloroethene	220	J	230	J	µg/L	4.4
RD-49B	04/15/11	EPA 180.1	Turbidity	10		11		NTU	9.5
RD-49B	04/15/11	EPA 8260B	Vinyl chloride	2.2	J	2.1	J	µg/L	NA
RD-49B	04/15/11	EPA 6010B	Zinc	1.5		1.5		mg/L	0.0
RD-49B	04/15/11	EPA 6010B	Zinc, Dissolved	1.4		1.4		mg/L	0.0
RD-49C	04/15/11	EPA 1625M	n-Nitrosodimethylamine	0.014		0.011		µg/L	NA
RD-51B	04/13/11	EPA 1625M	n-Nitrosodimethylamine	0.005	U	0.0063		µg/L	NA
RS-33	04/07/11	EPA 1625M	n-Nitrosodimethylamine	0.18		0.2		µg/L	11
RS-34	04/27/11	EPA 1625M	n-Nitrosodimethylamine	0.0077		0.008		µg/L	NA
SH-02	04/08/11	EPA 1625M	n-Nitrosodimethylamine	0.052		0.049		µg/L	5.9
SH-03	04/08/11	EPA 1625M	n-Nitrosodimethylamine	0.066		0.03		µg/L	**75**
SH-04	04/07/11	EPA 1625M	n-Nitrosodimethylamine	0.077		0.084		µg/L	8.7
SH-09	04/11/11	EPA 1625M	n-Nitrosodimethylamine	0.0084		0.01		µg/L	NA
SH-11	04/06/11	EPA 8270C	Diethyl phthalate	0.39	J	0.46	J	µg/L	NA

RPDs are only calculated when an analyte is detected in both the primary and duplicate samples at concentrations exceeding five times their RLs.
Results in bold exceed the acceptance criterion of 35.

NOTES AND ABBREVIATIONS
µg/L - micrograms per liter
µmhos/cm - micromhos per centimeter
mg/L - milligrams per liter
NTU - Nephelometric Turbidity Units
EPA - Environmental Protection Agency
SM - Standard Method
NA - not applicable
RPD - relative percent difference
U - the result is not detected above the method detection limit or reporting limit
UJ - the result is not detected; however, the MDL/RL is qualified as estimated
J - result is estimated

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
ES-17	04/25/11	Primary Sample	EPA 504.1	1,2-Dibromoethane	0.0037	µg/L	Primary Result	U	UJ	V	L	25476B
ES-17	04/25/11	Primary Sample	EPA 350.1	Ammonia-N	0.11	mg/L	Primary Result	JB	U	V	B	25476B
ES-17	04/25/11	Primary Sample	EPA 6010B	Manganese	0.00056	mg/L	Primary Result	JB	U	V	B	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Arsenic	0.0013	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Copper	0.0018	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.00054	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6010B	Potassium	0.93	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6010B	Potassium, Dissolved	0.94	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Antimony	0.00016	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00018	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Cobalt	0.00017	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00019	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Nickel	0.0015	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0015	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0034	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Selenium	0.0024	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0032	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Tin	0.00089	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Tin, Dissolved	0.0008	mg/L	Primary Result	JB	U	V	B	25476B
ES-17	04/25/11	Primary Sample	EPA 6020	Vanadium	0.0032	mg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	2.8	µg/L	Primary Result		J	IV	S	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	1,1,2,2-Tetrachloroethane	0.42	µg/L	Primary Result	U	UJ	IV	Q	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	7.6	µg/L	Primary Result		J	IV	S	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Acetone	300	µg/L	Primary Result		J	IV	S	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Acrolein	2.8	µg/L	Primary Result	U	UJ	IV	R	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.68	µg/L	Primary Result	J	J	IV	S, TR	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Acrylonitrile	1.4	µg/L	Primary Result	U	UJ	IV	R	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Carbon Disulfide	0.9	µg/L	Primary Result	U	UJ	IV	Q	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.38	µg/L	Primary Result	U	UJ	IV	C, Q	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Dichlorodifluoromethane	3.2	µg/L	Primary Result	J	J	IV	C, S, TR	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Bromoform	0.38	µg/L	Primary Result	U	UJ	IV	Q	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Dibromochloromethane	0.34	µg/L	Primary Result	U	UJ	IV	Q	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Tetrachloroethene	1.3	µg/L	Primary Result	J	J	IV	S, TR	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	0.75	µg/L	Primary Result	J	J	V	TR	25476B
ES-17	04/25/11	Primary Sample	EPA 8260B	Methylene chloride	0.96	µg/L	Primary Result	J	J	IV	Q, S, TR	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.6	µg/L	Primary Result	J	J	IV	S, TR	25667M
ES-17	04/25/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.58	µg/L	Primary Result	U	UJ	IV	C	25667M
ES-17	04/25/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.76	µg/L	Primary Result	J	J	V	TR	25476B
ES-26	04/26/11	Field Duplicate	EPA 180.1	Turbidity	0.25	NTU	Primary Result	HTV	J	V	H	25528A
ES-26	04/26/11	Field Duplicate	EPA 300.0	Nitrate-NO3	2	mg/L	Primary Result	JHTV	J	V	H, TR	25528A
ES-26	04/26/11	Field Duplicate	EPA 6010B	Potassium	2.6	mg/L	Primary Result	J	J	V	TR	25528A
ES-26	04/26/11	Field Duplicate	EPA 6010B	Potassium, Dissolved	2.6	mg/L	Primary Result	J	J	V	TR	25528A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
ES-26	04/26/11	Field Duplicate	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	8.5	µg/L	Primary Result		J	V	S	25528A
ES-26	04/26/11	Field Duplicate	EPA 8260B	cis-1,2-Dichloroethene	1.4	µg/L	Primary Result		J	V	S	25528A
ES-26	04/26/11	Field Duplicate	EPA 8260B	Trichloroethene	5.3	µg/L	Primary Result		J	V	S	25528A
ES-26	04/26/11	Field Duplicate	EPA 8270C	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B	25528A
ES-26	04/26/11	Field Duplicate	EPA 9040B	pH	7.58	pH Units	Primary Result	HTV	J	V	H	25528A
ES-26	04/26/11	Primary Sample	EPA 180.1	Turbidity	0.3	NTU	Primary Result	HTV	J	V	H	25528A
ES-26	04/26/11	Primary Sample	EPA 300.0	Nitrate-NO3	3.1	mg/L	Primary Result	HTV	J	V	H	25528A
ES-26	04/26/11	Primary Sample	EPA 6010B	Iron	0.022	mg/L	Primary Result	J	J	V	TR	25528A
ES-26	04/26/11	Primary Sample	EPA 6010B	Potassium	2.5	mg/L	Primary Result	J	J	V	TR	25528A
ES-26	04/26/11	Primary Sample	EPA 6010B	Potassium, Dissolved	2.5	mg/L	Primary Result	J	J	V	TR	25528A
ES-26	04/26/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	9.3	µg/L	Primary Result		J	V	S	25528A
ES-26	04/26/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	1.4	µg/L	Primary Result		J	V	S	25528A
ES-26	04/26/11	Primary Sample	EPA 8260B	Trichloroethene	5.1	µg/L	Primary Result		J	V	S	25528A
ES-26	04/26/11	Primary Sample	EPA 9040B	pH	7.75	pH Units	Primary Result	HTV	J	V	H	25528A
ES-26	04/26/11	Primary Sample	EPA 8270C	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B	25528A
ES-27	04/25/11	Primary Sample	EPA 504.1	1,2-Dibromoethane	0.0036	µg/L	Primary Result	U	UJ	V	L	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Arsenic	0.00079	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00091	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 350.1	Ammonia-N	0.071	mg/L	Primary Result	JB	U	V	B	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Antimony	0.00012	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00012	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.0012	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Cobalt	0.00065	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00061	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000042	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Chromium	0.0012	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Selenium	0.001	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0017	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Tin, Dissolved	0.001	mg/L	Primary Result	JB	U	V	B	25476B
ES-27	04/25/11	Primary Sample	EPA 6020	Vanadium	0.0017	mg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 8260B	Methylene chloride	1.4	µg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.54	µg/L	Primary Result	J	J	V	TR	25476B
ES-27	04/25/11	Primary Sample	EPA 9040B	pH	7.68	pH Units	Primary Result	HTV	J	V	H	25476B
HAR-01	04/20/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00007	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Arsenic	0.0011	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 350.1	Ammonia-N	0.056	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.001	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00018	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Chromium	0.0026	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.0023	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Cadmium	0.00016	mg/L	Primary Result	J	J	V	TR	25468B

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SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-01	04/20/11	Primary Sample	EPA 6020	Cobalt	0.000049	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000059	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Tin, Dissolved	0.0017	mg/L	Primary Result	JB	U	V	B	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Vanadium	0.0045	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0042	mg/L	Primary Result	J	J	V	TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25468B
HAR-01	04/20/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.36	µg/L	Primary Result	J	J	IV	L, TR	25667J
HAR-01	04/20/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	3.6	µg/L	Primary Result		J	V	S	25468B
HAR-01	04/20/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.43	µg/L	Primary Result	J	J	V	S, TR	25468B
HAR-01	04/20/11	Primary Sample	EPA 8321A	Hexachlorophene	0.49	µg/L	Primary Result	U	UJ	V	Q	25468B
HAR-01	04/20/11	Primary Sample	EPA 9012	Cyanides	0.0024	mg/L	Primary Result	J	J	IV	TR	25667J
HAR-01	04/20/11	Primary Sample	EPA 9040B	pH	6.85	pH Units	Primary Result	HTV	J	V	H	25468B
HAR-04	04/20/11	Primary Sample	EPA 314.0	Perchlorate	1.5	µg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.000081	mg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Arsenic	0.00041	mg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00043	mg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000036	mg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00044	mg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Cobalt	0.00005	mg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Nickel	0.00061	mg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Vanadium	0.00092	mg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00075	mg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	EPA 6020	Tin, Dissolved	0.0018	mg/L	Primary Result	JB	U	V	B	25468B
HAR-04	04/20/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25468B
HAR-04	04/20/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.54	µg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	DV-WC-0077	Hydrazine	0.68	µg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Primary Sample	DV-WC-0077	Monomethylhydrazine	0.78	µg/L	Primary Result	J	J	V	TR	25468B
HAR-04	04/20/11	Split Sample	SM4500	Sulfide	0.051	mg/L	Primary Result	B,J	U	V	B	25528F
HAR-04	04/20/11	Primary Sample	EPA 9040B	pH	6.65	pH Units	Primary Result	HTV	J	V	H	25468B
HAR-04	04/20/11	Split Sample	EPA 314.0	Perchlorate	1.9	µg/L	Primary Result	J	J	V	TR	25528F
HAR-04	04/20/11	Split Sample	EPA 6020	Chromium	0.00099	mg/L	Primary Result	J	J	V	TR	25528F
HAR-04	04/20/11	Split Sample	EPA 6020	Copper, Dissolved	0.00067	mg/L	Primary Result	J	J	V	TR	25528F
HAR-04	04/20/11	Split Sample	EPA 6020	Vanadium, Dissolved	0.00083	mg/L	Primary Result	J	J	V	TR	25528F
HAR-04	04/20/11	Split Sample	EPA 8151A	Dinoseb	0.19	µg/L	Primary Result	U	UJ	V	E	25528F
HAR-04	04/20/11	Split Sample	EPA 8151A	Dinoseb	0.19	µg/L	Primary Result	U	UJ	V	E	25528F
HAR-04	04/20/11	Split Sample	EPA 8260B	1,1,1-Trichloroethane	0.53	µg/L	Primary Result	J	J	V	TR	25528F
HAR-04	04/20/11	Split Sample	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.4	pg/L	Primary Result	J, Ba	U	V	B	25528F
HAR-04	04/20/11	Split Sample	EPA 8290	dioxin	1.1	pg/L	Primary Result	J, Ba	U	V	B	25528F
HAR-04	04/20/11	Split Sample	EPA 8290	Octachlorodibenzo-p-dioxin	5.9	pg/L	Primary Result	J, Ba	U	V	B	25528F
HAR-04	04/20/11	Split Sample	EPA 8290	Octachlorodibenzofuran	3.8	pg/L	Primary Result	J, Ba	U	V	B	25528F
HAR-02	04/22/11	Primary Sample	EPA 350.1	Ammonia-N	0.066	mg/L	Primary Result	J	U	V	F	25473B

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-02	04/22/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.0084	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 314.0	Perchlorate	0.63	µg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6010B	Iron	0.14	mg/L	Primary Result		U	V	F	25473B
HAR-02	04/22/11	Primary Sample	EPA 6010B	Potassium	0.9	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6010B	Potassium, Dissolved	0.89	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Antimony	0.00017	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00015	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Arsenic	0.00067	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Cadmium	0.00013	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00073	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00017	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Copper, Dissolved	0.00091	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Lead	0.0002	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Silver	0.00002	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00052	mg/L	Primary Result	JB	U	V	B, F	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Vanadium	0.0011	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0009	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Cobalt	0.00024	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.0002	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Copper	0.00093	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Selenium	0.0045	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Tin	0.00036	mg/L	Primary Result	J	U	V	F	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Zinc	0.01	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.012	mg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 8260B	Acetone	3.5	µg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 8260B	Chloroform	0.23	µg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	L	25473B
HAR-02	04/22/11	Primary Sample	EPA 8260B	Dichlorodifluoromethane	0.31	µg/L	Primary Result	U	UJ	V	E	25473B
HAR-02	04/22/11	Primary Sample	EPA 8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B	25473B
HAR-02	04/22/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.35	µg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	E	25473B
HAR-02	04/22/11	Primary Sample	EPA 8270C	Benzo(ghi)perylene	1.8	µg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.9	µg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 8270C	Di-n-octyl phthalate	0.36	µg/L	Primary Result	J	J	V	TR	25473B
HAR-02	04/22/11	Primary Sample	EPA 8290	dioxin	6.2	pg/L	Primary Result	JQC	J	IV	TR	25667L
HAR-02	04/22/11	Primary Sample	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	2.7	pg/L	Primary Result	J	J	IV	TR	25667L
HAR-02	04/22/11	Primary Sample	EPA 9012	Cyanides	0.0029	mg/L	Primary Result	J	U	V	F	25473B
HAR-02	04/22/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	78	pg/L	Primary Result	J	J	IV	TR	25667L
HAR-02	04/22/11	Primary Sample	EPA 8290	Octachlorodibenzofuran	5.9	pg/L	Primary Result	JQC	J	IV	TR	25667L
HAR-03	04/20/11	Primary Sample	EPA 300.0	Fluoride	0.29	mg/L	Primary Result	J	J	V	TR	25468B

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-03	04/20/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00014	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000049	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 314.0	Perchlorate	1.9	µg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Antimony	0.000098	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Cobalt	0.000046	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Nickel	0.00056	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Silver	0.00002	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000019	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Thallium	0.000029	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00067	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000021	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Tin	0.00045	mg/L	Primary Result	JB	U	V	B	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Tin, Dissolved	0.002	mg/L	Primary Result	JB	U	V	B	25468B
HAR-03	04/20/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Vanadium	0.00035	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00028	mg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.94	µg/L	Primary Result	J	J	V	S, TR	25468B
HAR-03	04/20/11	Primary Sample	EPA 8260B	Trichloroethene	55	µg/L	Primary Result		J	V	S	25468B
HAR-03	04/20/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	3.1	µg/L	Primary Result	J	J	V	TR	25468B
HAR-03	04/20/11	Primary Sample	DV-WC-0077	1,1-Dimethylhydrazine	10	µg/L	Primary Result	JB	U	V	B	25468B
HAR-03	04/20/11	Primary Sample	EPA 9040B	pH	6.7	pH Units	Primary Result	HTV	J	V	H	25468B
HAR-05	04/13/11	Primary Sample	EPA 8260B	Trichloroethene	0.62	µg/L	Primary Result	J	J	V	TR	25402A
HAR-07	04/12/11	Field Duplicate	EPA 350.1	Ammonia-N	0.096	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 300.0	Fluoride	0.35	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Antimony, Dissolved	0.000071	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Arsenic	0.00037	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Arsenic, Dissolved	0.00036	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Cobalt, Dissolved	0.00011	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Copper	0.00065	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Nickel, Dissolved	0.0015	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Cobalt	0.00012	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Nickel	0.0018	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Vanadium	0.00028	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 6020	Vanadium, Dissolved	0.00021	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 8260B	1,1-Dichloroethene	2.7	µg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Field Duplicate	EPA 8290	Octachlorodibenzo-p-dioxin	5.5	pg/L	Primary Result	JB	U	IV	B	25667G
HAR-07	04/12/11	Field Duplicate	EPA 8290	Octachlorodibenzofuran	6.2	pg/L	Primary Result	J	J	IV	TR	25667G
HAR-07	04/12/11	Primary Sample	EPA 300.0	Fluoride	0.35	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Antimony	0.000084	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Arsenic	0.00039	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 350.1	Ammonia-N	0.076	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00038	mg/L	Primary Result	J	J	V	TR	25421A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-07	04/12/11	Primary Sample	EPA 6020	Vanadium	0.00027	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00022	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Cobalt	0.00015	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000095	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Copper	0.00061	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Nickel	0.0019	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	25421A
HAR-07	04/12/11	Primary Sample	EPA 6020	Tin	0.0002	mg/L	Primary Result	JB	U	V	B	25421A
HAR-07	04/12/11	Primary Sample	EPA 8290	Octachlorodibenzofuran	6.8	pg/L	Primary Result	JQC	J	IV	TR	25667G
HAR-07	04/12/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	11	pg/L	Primary Result	JB	U	IV	B	25667G
HAR-08	04/19/11	Primary Sample	EPA 300.0	Fluoride	0.24	mg/L	Primary Result	J	J	V	TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 350.1	Ammonia-N	0.064	mg/L	Primary Result	J	J	V	TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 6020	Cobalt	0.00031	mg/L	Primary Result	J	J	V	TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00027	mg/L	Primary Result	J	J	V	TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 6020	Arsenic	0.00071	mg/L	Primary Result	J	J	V	TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00068	mg/L	Primary Result	J	J	V	TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 6020	Tin, Dissolved	0.0017	mg/L	Primary Result	JB	U	V	B	25468A
HAR-08	04/19/11	Primary Sample	EPA 6020	Vanadium	0.00018	mg/L	Primary Result	J	J	V	TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25468A
HAR-08	04/19/11	Primary Sample	EPA 8260B	Acetone	9.7	µg/L	Primary Result	J	J	V	S, TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	11	µg/L	Primary Result		J	V	S	25468A
HAR-08	04/19/11	Primary Sample	EPA 8260B	Trichloroethene	0.72	µg/L	Primary Result	J	J	V	S, TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	0.72	µg/L	Primary Result	J	J	V	TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.8	µg/L	Primary Result	J	J	V	S, TR	25468A
HAR-08	04/19/11	Primary Sample	EPA 8260B	Vinyl chloride	3.6	µg/L	Primary Result		J	V	S	25468A
HAR-08	04/19/11	Primary Sample	EPA 8270C	Hexachlorocyclopentadiene	1.5	µg/L	Primary Result	U	UJ	V	E	25468A
HAR-08	04/19/11	Primary Sample	EPA 9040B	pH	7.18	pH Units	Primary Result	HTV	J	V	H	25468A
HAR-09	04/14/11	Primary Sample	EPA 300.0	Fluoride	0.38	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 350.1	Ammonia-N	0.31	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	SM4500	Sulfide	0.0098	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Antimony	0.00013	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00018	mg/L	Primary Result	JB	U	V	B	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Cadmium	0.00015	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Cobalt	0.00025	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00023	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0019	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000027	mg/L	Primary Result	JB	U	V	B	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Tin	0.0004	mg/L	Primary Result	JB	U	V	B	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Silver	0.000018	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000025	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00044	mg/L	Primary Result	JB	U	V	B	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Vanadium	0.00069	mg/L	Primary Result	J	J	V	TR	25421B

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-09	04/14/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0008	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 8081A	Dieldrin	0.006	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-09	04/14/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0023	mg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 8081A	4,4'-DDT	0.014	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-09	04/14/11	Primary Sample	EPA 8081A	Aldrin	0.0056	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-09	04/14/11	Primary Sample	EPA 8081A	gamma-BHC	0.0066	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-09	04/14/11	Primary Sample	EPA 8081A	Heptachlor	0.0073	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-09	04/14/11	Primary Sample	EPA 8151A	2,4,5-Trichlorophenoxypropionic acid	0.16	µg/L	Primary Result	U	UJ	IV	E	25667H
HAR-09	04/14/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.2	µg/L	Primary Result	U	UJ	IV	E	25667H
HAR-09	04/14/11	Primary Sample	EPA 8151A	2,4,5-T	0.18	µg/L	Primary Result	U	UJ	IV	E	25667H
HAR-09	04/14/11	Primary Sample	EPA 8151A	Dinoseb	0.42	µg/L	Primary Result	J	J	IV	TR	25667H
HAR-09	04/14/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.8	µg/L	Primary Result	J	J	V	TR	25421B
HAR-09	04/14/11	Primary Sample	EPA 8260B	trans-1,4-Dichloro-2-butene	0.8	µg/L	Primary Result	U	UJ	V	Q	25421B
HAR-11	04/14/11	Primary Sample	EPA 350.1	Ammonia-N	0.067	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.0002	mg/L	Primary Result	JB	U	V	B	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Arsenic	0.0016	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Cobalt	0.00034	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Antimony	0.00016	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Cadmium	0.000089	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000074	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00032	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Copper	0.0013	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Tin	0.00024	mg/L	Primary Result	JB	U	V	B	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00047	mg/L	Primary Result	JB	U	V	B	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0054	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Aldrin	0.0062	µg/L	Primary Result	U	UJ	V	S, E	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	alpha-BHC	0.0055	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	beta-BHC	0.0091	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Vanadium	0.00052	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00046	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 6020	Zinc	0.0044	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 8015B	Kerosene Range (C15-C20)	0.074	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 8015B	Diesel Range Organics (C21-C30)	0.16	mg/L	Primary Result	J	J	V	TR	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	4,4'-DDD	0.008	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	4,4'-DDE	0.0078	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	4,4'-DDT	0.015	µg/L	Primary Result	U	UJ	V	S, E	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Chlordane	0.15	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Chlorobenzilate	0.044	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Dieldrin	0.0066	µg/L	Primary Result	U	UJ	V	S, E	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Endosulfan sulfate	0.0059	µg/L	Primary Result	U	UJ	V	S	25421B

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-11	04/14/11	Primary Sample	EPA 8081A	Endosulfan I	0.0061	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	gamma-BHC	0.0072	µg/L	Primary Result	U	UJ	V	S, E	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Heptachlor	0.008	µg/L	Primary Result	U	UJ	V	S, E	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Heptachlor epoxide	0.0078	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Toxaphene	0.38	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	delta-BHC	0.0061	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Diallate	0.2	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Endosulfan II	0.0073	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Endrin	0.0082	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Endrin aldehyde	0.0092	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	Kepone	0.36	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8081A	p,p'-Methoxychlor	0.014	µg/L	Primary Result	U	UJ	V	S	25421B
HAR-11	04/14/11	Primary Sample	EPA 8151A	2,4,5-T	0.19	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-11	04/14/11	Primary Sample	EPA 8151A	2,4,5-Trichlorophenoxypropionic acid	0.17	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-11	04/14/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.21	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-11	04/14/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	JB	U	V	B	25421B
HAR-12	04/15/11	Primary Sample	EPA 300.0	Fluoride	0.47	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6010B	Potassium	2.7	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6010B	Potassium, Dissolved	2.8	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Antimony	0.00007	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Arsenic	0.00043	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6010B	Calcium, Dissolved	77	mg/L	Primary Result		J	V	Q	25435B
HAR-12	04/15/11	Primary Sample	EPA 6010B	Manganese	0.0011	mg/L	Primary Result	JB	U	V	B	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00048	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0033	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Cobalt	0.0001	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000091	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Nickel	0.0011	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00092	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Selenium	0.0031	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Tin	0.00023	mg/L	Primary Result	JB	U	V	B	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00017	mg/L	Primary Result	JB	U	V	B	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Vanadium	0.0012	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0012	mg/L	Primary Result	J	J	V	TR	25435B
HAR-12	04/15/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.22	µg/L	Primary Result	J	J	IV	TR, IX	25667I
HAR-12	04/15/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.48	µg/L	Primary Result	J	J	V	TR	25435B
HAR-16	04/20/11	Field Duplicate	EPA 6010B	Iron	0.057	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6010B	Potassium	0.73	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6010B	Potassium, Dissolved	0.75	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6010B	Magnesium	4.9	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6010B	Manganese	0.001	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6020	Arsenic	0.00074	mg/L	Primary Result	J	J	V	TR	25468B

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
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VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-16	04/20/11	Field Duplicate	EPA 6020	Arsenic, Dissolved	0.00073	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6020	Tin, Dissolved	0.0017	mg/L	Primary Result	JB	U	V	B	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6020	Vanadium	0.0016	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6020	Cobalt	0.00004	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6020	Cobalt, Dissolved	0.000047	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6020	Nickel	0.0016	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6020	Nickel, Dissolved	0.00086	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 6020	Vanadium, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.27	µg/L	Primary Result	J	J	IV	L, TR	25667J
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,1,2,2-Tetrachloroethane	1	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	2.1	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,1,1,2-Tetrachloroethane	1	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,1,1-Trichloroethane	0.8	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,1,2-Trichloroethane	1.4	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,1-Dichloroethane	1.1	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,1-Dichloroethene	2.2	µg/L	Primary Result	J	J	V	S, TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,2-Dichloropropane	0.9	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Allyl chloride	0.85	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Bromomethane	1	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Carbon Disulfide	2.2	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Carbon Tetrachloride	0.95	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Chloromethane	1.5	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Chloroprene	1	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	cis-1,2-Dichloroethene	16	µg/L	Primary Result		J	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,2-Dichlorobenzene	0.75	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,2-Dichloroethane	0.65	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,3-Dichlorobenzene	0.65	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	1,4-Dichlorobenzene	0.8	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	2-Hexanone	8.5	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Methyl isobutyl ketone (MIBK)	4.9	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Acetone	9.5	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Acetonitrile	48	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Benzene	0.8	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Bromodichloromethane	0.85	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Bromoform	0.95	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Chlorobenzene	0.85	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Chloroethane	2	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Chloroform	0.8	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	cis-1,3-Dichloropropene	0.8	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Dibromochloromethane	0.85	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Dichlorodifluoromethane	1.6	µg/L	Primary Result	U	UJ	V	S	25468B

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Ethyl cyanide	18	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Ethyl methacrylate	4.3	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Isopropanol	65	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	m-Xylene & p-Xylene	1.7	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Methacrylonitrile	8	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Dibromomethane	0.85	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Ethylbenzene	0.8	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Iodomethane	1.2	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Isobutanol	180	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Methyl ethyl ketone	10	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Methyl methacrylate	5.6	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Methylene chloride	1.6	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Toluene	0.85	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	trans-1,4-Dichloro-2-butene	4	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Trichloroethene	1900	µg/L	Primary Result		J	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Trichlorofluoromethane	1.4	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B SIM	1,4-Dioxane	1.7	µg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	o-Xylene	0.95	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Styrene	0.85	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Tetrachloroethene	1	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	trans-1,2-Dichloroethene	0.75	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	trans-1,3-Dichloropropene	0.95	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Vinyl acetate	4.7	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8260B	Vinyl chloride	0.5	µg/L	Primary Result	U	UJ	V	S	25468B
HAR-16	04/20/11	Field Duplicate	EPA 8270C	n-Nitrosodimethylamine	1.6	µg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Field Duplicate	EPA 9040B	pH	6.88	pH Units	Primary Result	HTV	J	V	H	25468B
HAR-16	04/20/11	Primary Sample	EPA 300.0	Fluoride	0.49	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6010B	Magnesium	4.9	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6010B	Potassium, Dissolved	0.74	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6020	Arsenic	0.00077	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00073	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000044	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6010B	Manganese	0.00045	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6010B	Potassium	0.72	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6020	Cobalt	0.000052	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6020	Nickel	0.00073	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6020	Vanadium	0.0016	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0015	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00065	mg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 6020	Tin, Dissolved	0.0017	mg/L	Primary Result	JB	U	V	B	25468B
HAR-16	04/20/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25468B
HAR-16	04/20/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	2.2	µg/L	Primary Result	J	J	V	S, TR	25468B

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-16	04/20/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	16	µg/L	Primary Result		J	V	S	25468B
HAR-16	04/20/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.8	µg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 8270C	n-Nitrosodimethylamine	1.8	µg/L	Primary Result	J	J	V	TR	25468B
HAR-16	04/20/11	Primary Sample	EPA 9040B	pH	6.81	pH Units	Primary Result	HTV	J	V	H	25468B
HAR-13	04/19/11	Primary Sample	EPA 300.0	Fluoride	0.33	mg/L	Primary Result	J	J	V	TR	25468A
HAR-13	04/19/11	Primary Sample	EPA 300.0	Nitrate-NO3	0.6	mg/L	Primary Result	J	J	V	TR	25468A
HAR-13	04/19/11	Primary Sample	EPA 350.1	Ammonia-N	0.064	mg/L	Primary Result	J	J	V	TR	25468A
HAR-13	04/19/11	Primary Sample	EPA 6010B	Magnesium, Dissolved	3	mg/L	Primary Result	J	J	V	TR	25468A
HAR-13	04/19/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	3.3	µg/L	Primary Result	J	J	V	S, TR	25468A
HAR-13	04/19/11	Primary Sample	EPA 6010B	Iron, Dissolved	0.088	mg/L	Primary Result	J	J	V	TR	25468A
HAR-13	04/19/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.00043	mg/L	Primary Result	J	J	V	TR	25468A
HAR-13	04/19/11	Primary Sample	EPA 6010B	Potassium	0.94	mg/L	Primary Result	J	J	V	TR	25468A
HAR-13	04/19/11	Primary Sample	EPA 6010B	Potassium, Dissolved	0.38	mg/L	Primary Result	J	J	V	TR	25468A
HAR-13	04/19/11	Primary Sample	EPA 9040B	pH	6.64	pH Units	Primary Result	HTV	J	V	H	25468A
HAR-14	04/15/11	Primary Sample	EPA 300.0	Fluoride	0.42	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6010B	Potassium	3.1	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6010B	Potassium, Dissolved	3.2	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Antimony	0.00024	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00031	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Arsenic	0.0013	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6010B	Calcium, Dissolved	52	mg/L	Primary Result		J	V	Q	25435B
HAR-14	04/15/11	Primary Sample	EPA 6010B	Manganese	0.0056	mg/L	Primary Result	JB	U	V	B	25435B
HAR-14	04/15/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.00038	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000045	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Copper	0.0016	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Selenium	0.0011	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000021	mg/L	Primary Result	JB	U	V	B	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Tin	0.00025	mg/L	Primary Result	JB	U	V	B	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Zinc	0.0037	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0028	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00029	mg/L	Primary Result	JB	U	V	B	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Vanadium	0.002	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0017	mg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 8151A	Dinoseb	0.27	µg/L	Primary Result	J	J	IV	TR, IX	25667I
HAR-14	04/15/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.23	µg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.4	µg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 8260B	Chloroform	0.88	µg/L	Primary Result	J	J	V	TR	25435B
HAR-14	04/15/11	Primary Sample	EPA 8270C	Benzyl alcohol	0.23	µg/L	Primary Result	J	J	IV	TR	25667I
HAR-14	04/15/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	2	µg/L	Primary Result	J	J	IV	TR	25667I

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-14	04/15/11	Primary Sample	EPA 8270C	Di-n-octyl phthalate	2.2	µg/L	Primary Result	J	J	IV	TR	25667I
HAR-14	04/15/11	Primary Sample	EPA 8270C	n-Nitrosodimethylamine	3.9	µg/L	Primary Result	J	J	IV	TR	25667I
HAR-15	04/14/11	Primary Sample	SM4500	Sulfide	0.018	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Antimony	0.00021	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00024	mg/L	Primary Result	JB	U	V	B	25421B
HAR-15	04/14/11	Primary Sample	EPA 300.0	Nitrate-NO3	0.24	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 350.1	Ammonia-N	0.19	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Chromium	0.001	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.00064	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Copper	0.00086	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Cadmium	0.000045	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Lead	0.00033	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Silver	0.000026	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000024	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Tin, Dissolved	0.0006	mg/L	Primary Result	JB	U	V	B	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Vanadium	0.0029	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0022	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 8081A	Dieldrin	0.0066	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Thallium	0.000035	mg/L	Primary Result	JB	U	V	B	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000074	mg/L	Primary Result	JB	U	V	B	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Tin	0.00037	mg/L	Primary Result	JB	U	V	B	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Zinc	0.0036	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0033	mg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 8081A	4,4'-DDT	0.016	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-15	04/14/11	Primary Sample	EPA 8081A	Aldrin	0.0062	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-15	04/14/11	Primary Sample	EPA 8081A	gamma-BHC	0.0073	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-15	04/14/11	Primary Sample	EPA 8081A	Heptachlor	0.0081	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-15	04/14/11	Primary Sample	EPA 8151A	2,4,5-Trichlorophenoxypropionic acid	0.17	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-15	04/14/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.21	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-15	04/14/11	Primary Sample	EPA 8260B	1,1,2,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	Q	25421B
HAR-15	04/14/11	Primary Sample	EPA 8151A	2,4,5-T	0.19	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-15	04/14/11	Primary Sample	EPA 8260B	1,1,1,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	Q	25421B
HAR-15	04/14/11	Primary Sample	EPA 8260B	Acetone	2	µg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 8260B	1,4-Dichlorobenzene	0.16	µg/L	Primary Result	U	UJ	V	Q	25421B
HAR-15	04/14/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.82	µg/L	Primary Result	J	J	V	TR	25421B
HAR-15	04/14/11	Primary Sample	EPA 8260B	cis-1,3-Dichloropropene	0.16	µg/L	Primary Result	U	UJ	V	Q	25421B
HAR-15	04/14/11	Primary Sample	EPA 8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	Q	25421B
HAR-19	04/15/11	Primary Sample	EPA 300.0	Fluoride	0.12	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6010B	Calcium, Dissolved	150	mg/L	Primary Result		J	V	Q	25435B
HAR-19	04/15/11	Primary Sample	EPA 6010B	Iron	0.022	mg/L	Primary Result	JB	U	V	B	25435B
HAR-19	04/15/11	Primary Sample	EPA 6010B	Potassium	4.8	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Antimony	0.00014	mg/L	Primary Result	J	J	V	TR	25435B

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-19	04/15/11	Primary Sample	EPA 6020	Cobalt	0.00017	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000016	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Thallium	0.00004	mg/L	Primary Result	JB	U	V	B	25435B
HAR-19	04/15/11	Primary Sample	EPA 6010B	Potassium, Dissolved	4.8	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00017	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Arsenic	0.00034	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00038	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00014	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Selenium	0.0018	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0022	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000046	mg/L	Primary Result	JB	U	V	B	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Tin	0.00036	mg/L	Primary Result	JB	U	V	B	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00043	mg/L	Primary Result	JB	U	V	B	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Vanadium	0.00068	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00071	mg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 8015B	Diesel Range Organics (C21-C30)	0.034	mg/L	Primary Result	U	UJ	V	Q	25435B
HAR-19	04/15/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.54	µg/L	Primary Result	J	J	V	TR	25435B
HAR-19	04/15/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	200	µg/L	Primary Result		J	V	Q	25435B
HAR-19	04/15/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	130	µg/L	Primary Result		J	V	Q	25435B
HAR-19	04/15/11	Primary Sample	EPA 8260B	trans-1,4-Dichloro-2-butene	0.8	µg/L	Primary Result	U	UJ	V	Q	25435B
HAR-19	04/15/11	Primary Sample	EPA 8260B	Trichloroethene	120	µg/L	Primary Result		J	V	Q	25435B
HAR-19	04/15/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	2.1	µg/L	Primary Result	J	J	V	TR	25435B
HAR-20	04/14/11	Primary Sample	EPA 300.0	Fluoride	0.26	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Arsenic	0.0029	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0031	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000042	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00008	mg/L	Primary Result	JB	U	V	B	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Cobalt	0.00029	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00026	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Lead, Dissolved	0.00048	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000029	mg/L	Primary Result	JB	U	V	B	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00015	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Zinc	0.012	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.013	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Tin	0.00028	mg/L	Primary Result	JB	U	V	B	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00037	mg/L	Primary Result	JB	U	V	B	25421B
HAR-20	04/14/11	Primary Sample	EPA 6020	Vanadium	0.00019	mg/L	Primary Result	J	J	V	TR	25421B
HAR-20	04/14/11	Primary Sample	EPA 8081A	Dieldrin	0.0064	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-20	04/14/11	Primary Sample	EPA 8081A	gamma-BHC	0.007	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-20	04/14/11	Primary Sample	EPA 8081A	4,4'-DDT	0.015	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-20	04/14/11	Primary Sample	EPA 8081A	Aldrin	0.006	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-20	04/14/11	Primary Sample	EPA 8081A	Heptachlor	0.0078	µg/L	Primary Result	U	UJ	V	E	25421B

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SANTA SUSANA FIELD LABORATORY
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-20	04/14/11	Primary Sample	EPA 8151A	2,4,5-T	0.19	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-20	04/14/11	Primary Sample	EPA 8151A	2,4,5-Trichlorophenoxypropionic acid	0.17	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-20	04/14/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.21	µg/L	Primary Result	U	UJ	V	E	25421B
HAR-20	04/14/11	Primary Sample	EPA 8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	IV	R	25667H
HAR-20	04/14/11	Primary Sample	EPA 8260B	Acrylonitrile	1.4	µg/L	Primary Result	U	UJ	IV	R	25667H
HAR-20	04/14/11	Primary Sample	EPA 8260B	Dichlorodifluoromethane	0.5	µg/L	Primary Result	J	J	IV	TR	25667H
HAR-20	04/14/11	Primary Sample	EPA 8260B	Vinyl chloride	0.42	µg/L	Primary Result	J	J	IV	TR	25667H
HAR-21	04/13/11	Primary Sample	EPA 350.1	Ammonia-N	0.086	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 300.0	Fluoride	0.46	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	SM4500	Sulfide	0.016	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Antimony	0.0001	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Arsenic	0.0007	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Cobalt	0.00039	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00039	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Nickel	0.0019	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Selenium	0.0007	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00075	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Silver	0.000016	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000035	mg/L	Primary Result	JB	U	V	B	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Thallium	0.000022	mg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 6020	Tin	0.00043	mg/L	Primary Result	JB	U	V	B	25402A
HAR-21	04/13/11	Primary Sample	EPA 7470A	Mercury	0.000029	mg/L	Primary Result	JB	U	V	B	25402A
HAR-21	04/13/11	Primary Sample	EPA 8081A	4,4'-DDT	0.014	µg/L	Primary Result	U	UJ	V	E	25402A
HAR-21	04/13/11	Primary Sample	EPA 8081A	Aldrin	0.0056	µg/L	Primary Result	U	UJ	V	E	25402A
HAR-21	04/13/11	Primary Sample	EPA 8081A	Dieldrin	0.006	µg/L	Primary Result	U	UJ	V	E	25402A
HAR-21	04/13/11	Primary Sample	EPA 8081A	gamma-BHC	0.0066	µg/L	Primary Result	U	UJ	V	E	25402A
HAR-21	04/13/11	Primary Sample	EPA 8081A	Heptachlor	0.0073	µg/L	Primary Result	U	UJ	V	E	25402A
HAR-21	04/13/11	Primary Sample	EPA 8151A	2,4,5-Trichlorophenoxypropionic acid	0.16	µg/L	Primary Result	U	UJ	V	E	25402A
HAR-21	04/13/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.2	µg/L	Primary Result	U	UJ	V	E	25402A
HAR-21	04/13/11	Primary Sample	EPA 8151A	2,4,5-T	0.18	µg/L	Primary Result	U	UJ	V	E	25402A
HAR-21	04/13/11	Primary Sample	EPA 8260B	Trichloroethene	0.36	µg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.4	µg/L	Primary Result	J	J	V	TR	25402A
HAR-21	04/13/11	Primary Sample	EPA 8270C	Hexachlorocyclopentadiene	1.5	µg/L	Primary Result	U	UJ	V	E	25402A
HAR-21	04/13/11	Primary Sample	EPA 8315A	Formaldehyde	15	µg/L	Primary Result	J	J	V	TR	25402A
HAR-23	04/19/11	Primary Sample	EPA 300.0	Fluoride	0.46	mg/L	Primary Result	J	J	V	TR	25468A
HAR-23	04/19/11	Primary Sample	EPA 350.1	Ammonia-N	0.056	mg/L	Primary Result	J	J	V	TR	25468A
HAR-23	04/19/11	Primary Sample	EPA 8260B	Trichloroethene	1.9	µg/L	Primary Result		J	V	S	25468A
HAR-23	04/19/11	Primary Sample	EPA 9040B	pH	7.21	pH Units	Primary Result	HTV	J	V	H	25468A
HAR-25	04/22/11	Primary Sample	EPA 350.1	Ammonia-N	0.069	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Cobalt	0.000052	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000022	mg/L	Primary Result	J	J	V	TR	25473B

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-25	04/22/11	Primary Sample	EPA 6020	Arsenic	0.00097	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Selenium	0.002	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0021	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Tin	0.0028	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00078	mg/L	Primary Result	JB	U	V	B	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Vanadium	0.0026	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Nickel	0.00052	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00051	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0025	mg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.36	µg/L	Primary Result	J	J	IV	L, TR	25667K
HAR-25	04/22/11	Primary Sample	EPA 8260B	Chloroform	0.28	µg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 8260B	Dichlorodifluoromethane	0.31	µg/L	Primary Result	U	UJ	V	E	25473B
HAR-25	04/22/11	Primary Sample	EPA 8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	25473B
HAR-25	04/22/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	26	µg/L	Primary Result		J	V	E	25473B
HAR-25	04/22/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	0.76	µg/L	Primary Result	J	J	V	TR	25473B
HAR-25	04/22/11	Primary Sample	EPA 8315A	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25473B
HAR-26	04/07/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.000094	mg/L	Primary Result	J	J	V	TR	25382A
HAR-26	04/07/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000041	mg/L	Primary Result	J	J	V	TR	25382A
HAR-26	04/07/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000041	mg/L	Primary Result	J	J	V	TR	25382A
HAR-26	04/07/11	Primary Sample	EPA 6020	Nickel	0.00053	mg/L	Primary Result	J	J	V	TR	25382A
HAR-26	04/07/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00066	mg/L	Primary Result	J	J	V	TR	25382A
HAR-26	04/07/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000022	mg/L	Primary Result	J	J	V	TR	25382A
HAR-26	04/07/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000024	mg/L	Primary Result	J	J	V	TR	25382A
HAR-26	04/07/11	Primary Sample	EPA 6020	Tin	0.00018	mg/L	Primary Result	JB	U	V	B	25382A
HAR-26	04/07/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00018	mg/L	Primary Result	J	J	V	TR	25382A
HAR-26	04/07/11	Primary Sample	EPA 7470A	Mercury	0.000031	mg/L	Primary Result	J	J	V	TR	25382A
HAR-26	04/07/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000035	mg/L	Primary Result	JB	U	V	B	25382A
HAR-26	04/07/11	Primary Sample	EPA 8260B	1,1,1,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	Q	25382A
HAR-26	04/07/11	Primary Sample	EPA 8260B	1,4-Dichlorobenzene	0.16	µg/L	Primary Result	U	UJ	V	Q	25382A
HAR-26	04/07/11	Primary Sample	EPA 8260B	Chlorobenzene	0.17	µg/L	Primary Result	U	UJ	V	Q	25382A
HAR-26	04/07/11	Primary Sample	EPA 8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	Q	25382A
HAR-26	04/07/11	Primary Sample	EPA 8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	Q	25382A
HAR-26	04/07/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	Q	25382A
HAR-26	04/07/11	Primary Sample	EPA 8260B	Styrene	0.17	µg/L	Primary Result	U	UJ	V	Q	25382A
HAR-26	04/07/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	Q	25382A
HAR-26	04/07/11	Primary Sample	EPA 8260B	trans-1,4-Dichloro-2-butene	0.8	µg/L	Primary Result	U	UJ	V	Q	25382A
HAR-26	04/07/11	Primary Sample	EPA 9012	Cyanides	0.003	mg/L	Primary Result	J	J	V	TR	25382A
HAR-27	04/12/11	Primary Sample	EPA 6010B	Potassium	1.9	mg/L	Primary Result	J	J	V	TR	25421A
HAR-27	04/12/11	Primary Sample	EPA 6010B	Potassium, Dissolved	1.7	mg/L	Primary Result	J	J	V	TR	25421A
HAR-27	04/12/11	Primary Sample	EPA 6020	Antimony	0.000095	mg/L	Primary Result	J	J	V	TR	25421A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-27	04/12/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.000074	mg/L	Primary Result	J	J	V	TR	25421A
HAR-27	04/12/11	Primary Sample	EPA 6020	Cobalt	0.00078	mg/L	Primary Result	J	J	V	TR	25421A
HAR-27	04/12/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00073	mg/L	Primary Result	J	J	V	TR	25421A
HAR-27	04/12/11	Primary Sample	EPA 6020	Thallium	0.000024	mg/L	Primary Result	JB	U	V	B	25421A
HAR-27	04/12/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00048	mg/L	Primary Result	J	J	V	TR	25421A
HAR-27	04/12/11	Primary Sample	EPA 6020	Tin	0.00032	mg/L	Primary Result	JB	U	V	B	25421A
HAR-27	04/12/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00018	mg/L	Primary Result	JB	U	V	B	25421A
HAR-27	04/12/11	Primary Sample	EPA 6020	Vanadium	0.0005	mg/L	Primary Result	J	J	V	TR	25421A
HAR-27	04/12/11	Primary Sample	EPA 8151A	Dinoseb	0.45	µg/L	Primary Result	JB	J	IV	C, TR, IX	25667F
HAR-27	04/12/11	Primary Sample	EPA 8260B	Trichloroethene	0.41	µg/L	Primary Result	J	J	V	TR	25421A
HAR-27	04/12/11	Primary Sample	EPA 9012	Cyanides	0.0043	mg/L	Primary Result	J	J	IV	TR	25667F
HAR-28	04/12/11	Primary Sample	EPA 300.0	Fluoride	0.26	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 350.1	Ammonia-N	0.076	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Antimony	0.00023	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00024	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Arsenic	0.0011	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6010B	Manganese	0.00094	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.0007	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0012	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000067	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Silver	0.000018	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Vanadium	0.0017	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0015	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Cadmium	0.000057	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Cobalt	0.00016	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00015	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Copper	0.0006	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Selenium	0.00079	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Thallium	0.000026	mg/L	Primary Result	JB	U	V	B	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Tin	0.00033	mg/L	Primary Result	JB	U	V	B	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Zinc	0.0041	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0044	mg/L	Primary Result	J	J	V	TR	25421A
HAR-28	04/12/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.43	µg/L	Primary Result	J	J	V	TR	25421A
HAR-29	04/19/11	Primary Sample	EPA 300.0	Fluoride	0.22	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.0038	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6010B	Potassium	1.9	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6010B	Potassium, Dissolved	1.8	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 350.1	Ammonia-N	0.084	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6010B	Manganese	0.0049	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Arsenic	0.0012	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Cadmium	0.000055	mg/L	Primary Result	J	J	V	TR	25468A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-29	04/19/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000065	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Copper	0.0013	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0012	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Silver	0.000021	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Antimony	0.00024	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00024	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Cobalt	0.00018	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00017	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000017	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Thallium	0.000023	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000041	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0044	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Tin	0.00039	mg/L	Primary Result	JB	U	V	B	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Tin, Dissolved	0.0021	mg/L	Primary Result	JB	U	V	B	25468A
HAR-29	04/19/11	Primary Sample	EPA 6020	Vanadium	0.0048	mg/L	Primary Result	J	J	V	TR	25468A
HAR-29	04/19/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25468A
HAR-29	04/19/11	Primary Sample	EPA 8270C	Hexachlorocyclopentadiene	1.5	µg/L	Primary Result	U	UJ	V	E	25468A
HAR-29	04/19/11	Primary Sample	EPA 8321A	Hexachlorophene	0.49	µg/L	Primary Result	U	UJ	V	Q	25468A
HAR-29	04/19/11	Primary Sample	EPA 9040B	pH	7.13	pH Units	Primary Result	HTV	J	V	H	25468A
HAR-30	04/28/11	Primary Sample	EPA 300.0	Fluoride	0.42	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 350.1	Ammonia-N	0.08	mg/L	Primary Result	JB	U	V	B	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Arsenic	0.0021	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6010B	Iron	0.029	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6010B	Iron, Dissolved	0.024	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6010B	Potassium	1.7	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6010B	Potassium, Dissolved	1.7	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Cobalt	0.00028	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00021	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Nickel	0.0019	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0015	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Thallium	0.000025	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00062	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Silver	0.00002	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 6020	Vanadium	0.0006	mg/L	Primary Result	J	J	V	TR	25528C
HAR-30	04/28/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	Q	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,1,1,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,1,2,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,2-Dichlorobenzene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	25528C

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,3-Dichlorobenzene	0.13	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,4-Dichlorobenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	2-Hexanone	1.7	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	1,2-Dichloropropane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Methyl isobutyl ketone (MIBK)	0.98	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Allyl chloride	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Chlorobenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Chloroprene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	1.7	µg/L	Primary Result		J	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	cis-1,3-Dichloropropene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Acetonitrile	9.6	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Bromodichloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Bromoform	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Bromomethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Chloroethane	0.41	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Chloromethane	0.3	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Ethyl methacrylate	0.86	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Iodomethane	0.23	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Methacrylonitrile	1.6	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Methyl methacrylate	1.1	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	trans-1,4-Dichloro-2-butene	0.8	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Trichloroethene	3.2	µg/L	Primary Result		J	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Dibromomethane	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Dichlorodifluoromethane	0.31	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Ethyl cyanide	3.7	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Isobutanol	36	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	25528C

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SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-30	04/28/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Styrene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	trans-1,3-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Vinyl acetate	0.94	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	25528C
HAR-30	04/28/11	Primary Sample	EPA 8270C	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B	25528C
HAR-30	04/28/11	Primary Sample	EPA 9012	Cyanides	0.006	mg/L	Primary Result	JB	U	V	B	25528C
HAR-31	04/14/11	Primary Sample	EPA 6010B	Manganese	0.00085	mg/L	Primary Result	J	J	V	TR	25421B
HAR-31	04/14/11	Primary Sample	EPA 6010B	Iron	0.033	mg/L	Primary Result	JB	U	V	B	25421B
HAR-31	04/14/11	Primary Sample	EPA 6010B	Potassium	0.96	mg/L	Primary Result	J	J	V	TR	25421B
HAR-31	04/14/11	Primary Sample	EPA 6010B	Potassium, Dissolved	0.95	mg/L	Primary Result	J	J	V	TR	25421B
HAR-31	04/14/11	Primary Sample	EPA 8260B	Acetone	2.1	µg/L	Primary Result	J	J	V	TR	25421B
HAR-32	04/27/11	Primary Sample	EPA 6020	Arsenic	0.0005	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00051	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 350.1	Ammonia-N	0.083	mg/L	Primary Result	JB	U	V	B	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Cobalt	0.00013	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Nickel	0.0019	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Cadmium	0.000053	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00011	mg/L	Primary Result	JB	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Copper	0.0012	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Copper, Dissolved	0.00061	mg/L	Primary Result	JB	U	V	B	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Selenium	0.0036	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0036	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Tin	0.00023	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Vanadium	0.0013	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25528B
HAR-32	04/27/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	240	µg/L	Primary Result		J	V	S	25528B
HAR-32	04/27/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	L	25528B
HAR-32	04/27/11	Primary Sample	EPA 8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	L	25528B
HAR-32	04/27/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	L	25528B
HAR-32	04/27/11	Primary Sample	EPA 8260B	Trichloroethene	68	µg/L	Primary Result		J	V	S	25528B
HAR-32	04/27/11	Primary Sample	EPA 8270C	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B	25528B
HAR-32	04/27/11	Primary Sample	EPA 9012	Cyanides	0.0047	mg/L	Primary Result	JB	U	IV	B	25667P
HAR-32	04/27/11	Primary Sample	EPA 9040B	pH	7.6	pH Units	Primary Result	HTV	J	V	H	25528B
HAR-33	04/25/11	Primary Sample	EPA 350.1	Ammonia-N	0.085	mg/L	Primary Result	JB	U	V	B	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Cobalt	0.00052	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00056	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 504.1	1,2-Dibromoethane	0.0037	µg/L	Primary Result	U	UJ	V	L	25476B

TABLE B-3
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
HAR-33	04/25/11	Primary Sample	EPA 6020	Arsenic	0.00066	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00077	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Copper, Dissolved	0.00066	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Selenium	0.0033	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0041	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00026	mg/L	Primary Result	JB	U	V	B	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Vanadium	0.0018	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0017	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0021	mg/L	Primary Result	J	J	V	TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 8260B	Acrylonitrile	1.4	µg/L	Primary Result	U	UJ	V	S	25476B
HAR-33	04/25/11	Primary Sample	EPA 8260B	Acetone	10	µg/L	Primary Result	J	UJ	V	T, S	25476B
HAR-33	04/25/11	Primary Sample	EPA 8260B	Acrolein	2.8	µg/L	Primary Result	U	UJ	V	S	25476B
HAR-33	04/25/11	Primary Sample	EPA 8260B	Trichloroethene	0.35	µg/L	Primary Result	J	J	V	S, TR	25476B
HAR-33	04/25/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	2.3	pg/L	Primary Result	JQC	J	IV	TR	25667N
HAR-33	04/25/11	Primary Sample	EPA 8321A	Hexachlorophene	0.49	µg/L	Primary Result	U	UJ	V	Q	25476B
HAR-33	04/25/11	Primary Sample	EPA 9040B	pH	7.42	pH Units	Primary Result	HTV	J	V	H	25476B
PZ-035	04/26/11	Primary Sample	EPA 504.1	1,2-Dibromoethane	0.0036	µg/L	Primary Result	U	UJ	V	L	25528A
PZ-035	04/26/11	Primary Sample	EPA 300.0	Nitrate-NO3	2.9	mg/L	Primary Result	HTV	J	V	H	25528A
PZ-035	04/26/11	Primary Sample	EPA 350.1	Ammonia-N	0.074	mg/L	Primary Result	JB	U	V	B, F	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Antimony	0.000091	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Barium, Dissolved	0.031	mg/L	Primary Result		J	V	Q	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Chromium	0.0047	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Cobalt	0.00043	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.000079	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Arsenic	0.0013	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Cadmium	0.000056	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000054	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00039	mg/L	Primary Result	JB	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Copper	0.00067	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Copper, Dissolved	0.00082	mg/L	Primary Result	JB	U	V	B	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Selenium	0.0016	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0039	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25528A
PZ-035	04/26/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000027	mg/L	Primary Result	U	UJ	V	L	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Silver	0.000025	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Thallium	0.000037	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Vanadium	0.0014	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 6020	Zinc	0.002	mg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 8141A	Dimethoate	0.44	µg/L	Primary Result	U	UJ	V	S	25528A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-035	04/26/11	Primary Sample	EPA 8141A	Disulfoton	0.32	µg/L	Primary Result	U	UJ	V	S	25528A
PZ-035	04/26/11	Primary Sample	EPA 8141A	Phorate	0.15	µg/L	Primary Result	U	UJ	V	S	25528A
PZ-035	04/26/11	Primary Sample	EPA 8141A	Tetra ethyldithiopyrophosphate	0.17	µg/L	Primary Result	U	UJ	V	S	25528A
PZ-035	04/26/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	2.3	µg/L	Primary Result	J	J	V	S, TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 8141A	Famphur	0.18	µg/L	Primary Result	U	UJ	V	S	25528A
PZ-035	04/26/11	Primary Sample	EPA 8141A	Methyl parathion	0.14	µg/L	Primary Result	U	UJ	V	S	25528A
PZ-035	04/26/11	Primary Sample	EPA 8141A	Parathion	0.14	µg/L	Primary Result	U	UJ	V	S	25528A
PZ-035	04/26/11	Primary Sample	EPA 8141A	Zinophos	0.31	µg/L	Primary Result	U	UJ	V	S	25528A
PZ-035	04/26/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	J	J	V	S, TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	3	µg/L	Primary Result		J	V	S	25528A
PZ-035	04/26/11	Primary Sample	EPA 8260B	Trichloroethene	35	µg/L	Primary Result		J	V	S	25528A
PZ-035	04/26/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.1	µg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 8270C	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B	25528A
PZ-035	04/26/11	Primary Sample	EPA 8315A	Formaldehyde	8.9	µg/L	Primary Result	J	J	V	TR	25528A
PZ-035	04/26/11	Primary Sample	EPA 8321A	Hexachlorophene	0.49	µg/L	Primary Result	U	UJ	V	Q	25528A
PZ-035	04/26/11	Primary Sample	EPA 9012	Cyanides	0.0047	mg/L	Primary Result	JB	U	IV	B, F	25667O
PZ-035	04/26/11	Primary Sample	EPA 9040B	pH	7.2	pH Units	Primary Result	HTV	J	V	H	25528A
PZ-060	04/27/11	Primary Sample	EPA 350.1	Ammonia-N	0.3	mg/L	Primary Result	JB	U	V	B, F	25528B
PZ-060	04/27/11	Primary Sample	SM4500	Sulfide	0.0088	mg/L	Primary Result	J	J	IV	TR	25667P
PZ-060	04/27/11	Primary Sample	EPA 504.1	1,2-Dibromoethane	0.0036	µg/L	Primary Result	U	UJ	V	L	25528B
PZ-060	04/27/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00011	mg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 6020	Cadmium	0.00008	mg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 6020	Antimony	0.000087	mg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 6020	Lead	0.00022	mg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 6020	Vanadium	0.00031	mg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00022	mg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 6020	Zinc	0.0022	mg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 8015B	Diesel Range Organics (C12-C14)	0.16	mg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	4,4'-DDD	0.0076	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	4,4'-DDE	0.0074	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	4,4'-DDT	0.015	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00098	mg/L	Primary Result	JB	U	V	B, F	25528B
PZ-060	04/27/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0028	mg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Aldrin	0.0058	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	alpha-BHC	0.0052	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	beta-BHC	0.0086	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	delta-BHC	0.0057	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Diallate	0.19	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Endosulfan II	0.0069	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Endrin	0.0078	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Endrin aldehyde	0.0087	µg/L	Primary Result	U	UJ	V	S	25528B

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-060	04/27/11	Primary Sample	EPA 8081A	Kepone	0.34	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	p,p'-Methoxychlor	0.013	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Chlordane	0.14	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Chlorobenzilate	0.042	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Dieldrin	0.0062	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Endosulfan sulfate	0.0056	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Endosulfan I	0.0057	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	gamma-BHC	0.0068	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Heptachlor	0.0076	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Heptachlor epoxide	0.0074	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8081A	Toxaphene	0.36	µg/L	Primary Result	U	UJ	V	S	25528B
PZ-060	04/27/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	L	25528B
PZ-060	04/27/11	Primary Sample	EPA 8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	L	25528B
PZ-060	04/27/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	L	25528B
PZ-060	04/27/11	Primary Sample	EPA 8260B	Trichloroethene	1	µg/L	Primary Result	JB	U	V	B, T	25528B
PZ-060	04/27/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.8	µg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.66	µg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 8260B	Vinyl chloride	0.76	µg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 8270C	4-Nitroquinoline-1-oxide	20	µg/L	Primary Result	U	UJ	IV	C	25667P
PZ-060	04/27/11	Primary Sample	EPA 8270C	Diethyl phthalate	10	µg/L	Primary Result	JB	UJ	IV	C, B	25667P
PZ-060	04/27/11	Primary Sample	EPA 8270C	n-Nitrosodi-n-propylamine	0.42	µg/L	Primary Result	J	J	IV	TR	25667P
PZ-060	04/27/11	Primary Sample	EPA 8270C	Methapyrilene	20	µg/L	Primary Result	U	UJ	IV	C	25667P
PZ-060	04/27/11	Primary Sample	EPA 8270C	Methyl methanesulfonate	1	µg/L	Primary Result	U	UJ	IV	C	25667P
PZ-060	04/27/11	Primary Sample	EPA 8270C	p-Phenylenediamine	5	µg/L	Primary Result	U	UJ	IV	C	25667P
PZ-060	04/27/11	Primary Sample	EPA 8315A	Formaldehyde	11	µg/L	Primary Result	J	J	V	TR	25528B
PZ-060	04/27/11	Primary Sample	EPA 9012	Cyanides	0.0035	mg/L	Primary Result	JB	U	IV	B, F	25667P
PZ-060	04/27/11	Primary Sample	EPA 9040B	pH	7.94	pH Units	Primary Result	HTV	J	V	H	25528B
PZ-139	04/26/11	Primary Sample	EPA 300.0	Bromide	0.3	mg/L	Primary Result	J	J	V	TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 300.0	Phosphate	0.57	mg/L	Primary Result	UHTV	UJ	V	H	25528A
PZ-139	04/26/11	Primary Sample	EPA 6010B	Aluminum, Dissolved	0.06	mg/L	Primary Result	J	J	V	TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 6010B	Iron, Dissolved	0.1	mg/L	Primary Result		U	V	F	25528A
PZ-139	04/26/11	Primary Sample	EPA 6020	Beryllium, Dissolved	0.00016	mg/L	Primary Result	J	J	V	TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00023	mg/L	Primary Result	J	J	V	TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 300.0	Nitrate-NO3	5	mg/L	Primary Result	HTV	J	V	H	25528A
PZ-139	04/26/11	Primary Sample	EPA 300.0	Nitrite-N	0.16	mg/L	Primary Result	UHTV	UJ	V	H	25528A
PZ-139	04/26/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0026	mg/L	Primary Result	J	J	V	TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 6020	Barium, Dissolved	0.04	mg/L	Primary Result		J	V	Q	25528A
PZ-139	04/26/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0047	mg/L	Primary Result	B	U	V	B	25528A
PZ-139	04/26/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000037	mg/L	Primary Result	J	U	V	F	25528A
PZ-139	04/26/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000092	mg/L	Primary Result	J	J	V	TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25528A
PZ-139	04/26/11	Primary Sample	EPA 8015B	Diesel Range Organics (C12-C14)	0.13	mg/L	Primary Result	J	J	V	TR	25528A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-139	04/26/11	Primary Sample	EPA 8015B	Diesel Range Organics (C8-C30)	0.14	mg/L	Primary Result	J	J	V	TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25528A
PZ-139	04/26/11	Primary Sample	EPA 8015B	Kerosene Range (C15-C20)	0.033	mg/L	Primary Result	J	J	V	TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.73	µg/L	Primary Result	J	J	V	S, TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 8260B	1,2,4-Trimethylbenzene	0.15	µg/L	Primary Result	U	UJ	V	Q	25528A
PZ-139	04/26/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	10	µg/L	Primary Result		J	V	Q, S	25528A
PZ-139	04/26/11	Primary Sample	EPA 8260B	p-Cymene	0.2	µg/L	Primary Result	U	UJ	V	Q	25528A
PZ-139	04/26/11	Primary Sample	EPA 8260B	sec-Butylbenzene	0.17	µg/L	Primary Result	U	UJ	V	Q	25528A
PZ-139	04/26/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.51	µg/L	Primary Result	J	J	V	S, TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 8260B	Trichloroethene	200	µg/L	Primary Result		J	V	Q	25528A
PZ-139	04/26/11	Primary Sample	EPA 8270C	Diethyl phthalate	9.6	µg/L	Primary Result	JB	U	V	B, F	25528A
PZ-139	04/26/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B, F	25528A
PZ-139	04/26/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	9.5	µg/L	Primary Result	J	U	V	F	25528A
PZ-139	04/26/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	9.5	µg/L	Primary Result	JB	U	V	B, F	25528A
PZ-139	04/26/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	0.99	µg/L	Primary Result	J	J	V	TR	25528A
PZ-139	04/26/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	17	pg/L	Primary Result	JQC	J	V	TR	25473E
PZ-140	04/21/11	Primary Sample	EPA 300.0	Fluoride	0.45	mg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 6010B	Boron, Dissolved	0.047	mg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 300.0	Bromide	0.45	mg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000063	mg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000037	mg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00069	mg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00054	mg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25468D
PZ-140	04/21/11	Primary Sample	EPA 7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25468D
PZ-140	04/21/11	Primary Sample	EPA 8260B	Benzene	0.36	µg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 8260B	Chloroform	1	µg/L	Primary Result	J	U	V	F	25468D
PZ-140	04/21/11	Primary Sample	EPA 8260B	Trichloroethene	130	µg/L	Primary Result		J	V	S	25468D
PZ-140	04/21/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	1	µg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 8270C	Hexachlorocyclopentadiene	1.6	µg/L	Primary Result	U	R	V	L	25468D
PZ-140	04/21/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	JB	U	V	B, F	25468D
PZ-140	04/21/11	Primary Sample	EPA 8270C SIM	Butyl benzyl phthalate	10	µg/L	Primary Result	J	U	V	F	25468D
PZ-140	04/21/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	0.095	µg/L	Primary Result	J	J	V	TR	25468D
PZ-140	04/21/11	Primary Sample	EPA 8270C SIM	Benzo(ghi)perylene	10	µg/L	Primary Result	JB	U	V	B	25468D
PZ-140	04/21/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	10	µg/L	Primary Result	JB	U	V	B	25468D
PZ-140	04/21/11	Primary Sample	EPA 8270C SIM	Dibenzo(a,h)anthracene	10	µg/L	Primary Result	JB	U	V	B	25468D
PZ-140	04/21/11	Split Sample	EPA 300.0	Nitrate-NO3	11	mg/L	Primary Result	H	J	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 300.0	Nitrite-N	0.09	mg/L	Primary Result	U,H	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 300.0	Total Phosphorus	0.13	mg/L	Primary Result	U,H	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 6010B	Iron, Dissolved	0.02	mg/L	Primary Result	J	U	V	F	25528G

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-140	04/21/11	Split Sample	EPA 6020	Copper, Dissolved	0.0005	mg/L	Primary Result	J	J	V	TR	25528G
PZ-140	04/21/11	Split Sample	EPA 6020	Antimony, Dissolved	0.00051	mg/L	Primary Result	J	J	V	TR	25528G
PZ-140	04/21/11	Split Sample	EPA 6020	Cadmium, Dissolved	0.00012	mg/L	Primary Result	J	J	V	TR	25528G
PZ-140	04/21/11	Split Sample	EPA 6020	Cobalt, Dissolved	0.00058	mg/L	Primary Result	J	J	V	TR	25528G
PZ-140	04/21/11	Split Sample	EPA 6020	Selenium, Dissolved	0.0015	mg/L	Primary Result	J	J	V	TR	25528G
PZ-140	04/21/11	Split Sample	EPA 6020	Vanadium, Dissolved	0.00086	mg/L	Primary Result	J	J	V	TR	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	1,2,3-Trichlorobenzene	0.3	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	1,2,4-Trichlorobenzene	0.48	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	1,2,4-Trimethylbenzene	0.23	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	1,2-Dichlorobenzene	0.32	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	1,4-Dichlorobenzene	0.37	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	2-Chloroethylvinyl ether	1.8	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	p-Chlorotoluene	0.29	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Bromobenzene	0.27	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	1,3,5-Trimethylbenzene	0.26	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	1,3-Dichlorobenzene	0.35	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	o-Chlorotoluene	0.28	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Acrolein	4	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Acrylonitrile	1.2	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Benzene	0.34	µg/L	Primary Result	H, J	J	V	H, TR	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Cumene	0.25	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	m-Xylene & p-Xylene	0.6	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	n-Propylbenzene	0.27	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	o-Xylene	0.3	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	p-Cymene	0.28	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Chlorobenzene	0.36	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Ethylbenzene	0.25	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	n-Butylbenzene	0.37	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	sec-Butylbenzene	0.25	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Styrene	0.2	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Toluene	0.36	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	Xylenes, Total	0.9	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8260B	tert-Butylbenzene	0.22	µg/L	Primary Result	H,U	UJ	V	H	25528G
PZ-140	04/21/11	Split Sample	EPA 8290	dioxin	1.9	pg/L	Primary Result	J,B	U	V	B	25528G
PZ-140	04/21/11	Split Sample	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.4	pg/L	Primary Result	J,Q,B	U	V	B	25528G
PZ-140	04/21/11	Split Sample	EPA 8290	Hexachlorodibenzo-p-dioxins	1.1	pg/L	Primary Result	J	J	V	TR	25528G
PZ-140	04/21/11	Split Sample	EPA 8290	Hexachlorodibenzofurans	0.75	pg/L	Primary Result	J,Q,B	U	V	B	25528G
PZ-140	04/21/11	Split Sample	EPA 8290	Octachlorodibenzo-p-dioxin	4.4	pg/L	Primary Result	J,B	U	V	B	25528G
PZ-140	04/21/11	Split Sample	EPA 8290	Heptachlorodibenzo-p-dioxins	3.1	pg/L	Primary Result	J,Q,B	U	V	B	25528G
PZ-140	04/21/11	Split Sample	EPA 8290	Heptachlorodibenzofurans	1.4	pg/L	Primary Result	J,Q,B	U	V	B	25528G
PZ-140	04/21/11	Split Sample	EPA 8290	Octachlorodibenzofuran	2.7	pg/L	Primary Result	J,B	U	V	B	25528G
PZ-140	04/21/11	Split Sample	EPA 8290	Pentachlorodibenzofurans	0.44	pg/L	Primary Result	J,Q	J	V	TR	25528G

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-140	04/21/11	Split Sample	EPA 8315A	Formaldehyde	10	µg/L	Primary Result	U	UJ	V	H	25528G
PZ-141	04/12/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0017	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 300.0	Bromide	0.17	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 300.0	Fluoride	0.36	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000043	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00024	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0017	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0027	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 7196A	Hexavalent Chromium	0.018	mg/L	Primary Result	JHTV	J	V	H, TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25421A
PZ-141	04/12/11	Primary Sample	EPA 6020	Copper, Dissolved	0.00087	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000017	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000055	mg/L	Primary Result	JB	U	V	B, F	25421A
PZ-141	04/12/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	16	µg/L	Primary Result		J	V	Q	25421A
PZ-141	04/12/11	Primary Sample	EPA 8270C	3-Nitroaniline	2	µg/L	Primary Result	U	UJ	V	Q	25421A
PZ-141	04/12/11	Primary Sample	EPA 8270C	p-Nitroaniline	2	µg/L	Primary Result	U	UJ	V	Q	25421A
PZ-141	04/12/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	9.9	µg/L	Primary Result	J	U	V	F	25421A
PZ-141	04/12/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	9.9	µg/L	Primary Result	JB	U	V	B, F	25421A
PZ-141	04/12/11	Primary Sample	EPA 8290	dioxin	9.6	pg/L	Primary Result	J	J	V	TR	25382F
PZ-141	04/12/11	Primary Sample	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.8	pg/L	Primary Result	JQC	J	V	TR	25382F
PZ-141	04/12/11	Primary Sample	EPA 8270C SIM	Benzo(a)anthracene	9.9	µg/L	Primary Result	J	U	V	F	25421A
PZ-141	04/12/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	9.9	µg/L	Primary Result	J	U	V	F	25421A
PZ-141	04/12/11	Primary Sample	EPA 8270C SIM	Chrysene	9.9	µg/L	Primary Result	J	U	V	F	25421A
PZ-141	04/12/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	9.9	µg/L	Primary Result	J	U	V	F	25421A
PZ-141	04/12/11	Primary Sample	EPA 8270C SIM	Fluoranthene	0.0054	µg/L	Primary Result	J	J	V	TR	25421A
PZ-141	04/12/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	120	pg/L	Primary Result	B	U	V	B	25382F
PZ-141	04/12/11	Primary Sample	EPA 8290	Octachlorodibenzofuran	6.5	pg/L	Primary Result	JQC	J	V	TR	25382F
PZ-144	04/13/11	Field Duplicate	EPA 6020	Chromium, Dissolved	0.0005	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Field Duplicate	EPA 6020	Cobalt, Dissolved	0.000042	mg/L	Primary Result	J	U	V	F	25402A
PZ-144	04/13/11	Field Duplicate	EPA 6020	Arsenic, Dissolved	0.0043	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Field Duplicate	EPA 6020	Silver, Dissolved	0.000018	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Field Duplicate	EPA 6020	Thallium, Dissolved	0.000026	mg/L	Primary Result	JB	U	V	B	25402A
PZ-144	04/13/11	Field Duplicate	EPA 6020	Vanadium, Dissolved	0.0051	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Field Duplicate	EPA 7470A	Mercury, Dissolved	0.00004	mg/L	Primary Result	JB	U	V	B, F	25402A
PZ-144	04/13/11	Field Duplicate	EPA 6020	Nickel, Dissolved	0.00056	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Field Duplicate	EPA 6020	Selenium, Dissolved	0.0035	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Field Duplicate	EPA 7196A	Hexavalent Chromium	0.0081	mg/L	Primary Result	JHTV	J	V	H, TR	25402A
PZ-144	04/13/11	Field Duplicate	EPA 7196A	Hexavalent Chromium, Dissolved	0.0047	mg/L	Primary Result	JHTV	J	V	H, TR	25402A
PZ-144	04/13/11	Field Duplicate	EPA 8270C	bis(2-Ethylhexyl) phthalate	52	µg/L	Primary Result	J	U	V	F	25402A
PZ-144	04/13/11	Field Duplicate	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	0.44	µg/L	Primary Result	J	J	IV	TR	25689F
PZ-144	04/13/11	Field Duplicate	EPA 8270C SIM	Di-n-octyl phthalate	11	µg/L	Primary Result	JB	U	IV	B, F	25689F

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-144	04/13/11	Field Duplicate	EPA 8270C SIM	Diethyl phthalate	0.13	µg/L	Primary Result	J	J	IV	TR	25689F
PZ-144	04/13/11	Field Duplicate	EPA 8270C SIM	Di-n-butyl phthalate	11	µg/L	Primary Result	J	U	IV	F	25689F
PZ-144	04/13/11	Field Duplicate	EPA 8290	Octachlorodibenzo-p-dioxin	4.9	pg/L	Primary Result	JB	U	V	B	25398D
PZ-144	04/13/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0044	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000053	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0037	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000033	mg/L	Primary Result	JB	U	V	B	25402A
PZ-144	04/13/11	Primary Sample	EPA 7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25402A
PZ-144	04/13/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000034	mg/L	Primary Result	JB	U	V	B, F	25402A
PZ-144	04/13/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.00066	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Primary Sample	EPA 6020	Manganese, Dissolved	0.00051	mg/L	Primary Result	JB	U	V	B, F	25402A
PZ-144	04/13/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00061	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0045	mg/L	Primary Result	J	J	V	TR	25402A
PZ-144	04/13/11	Primary Sample	EPA 7196A	Hexavalent Chromium	0.011	mg/L	Primary Result	JHTV	J	V	H, TR	25402A
PZ-144	04/13/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	0.17	µg/L	Primary Result	J	J	IV	TR	25689F
PZ-144	04/13/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	9.9	µg/L	Primary Result	JB	U	IV	B, F	25689F
PZ-144	04/13/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	0.47	µg/L	Primary Result	J	J	IV	TR	25689F
PZ-144	04/13/11	Primary Sample	EPA 8270C SIM	Chrysene	0.0036	µg/L	Primary Result	J	J	IV	TR	25689F
PZ-144	04/13/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	9.9	µg/L	Primary Result	J	U	IV	F	25689F
PZ-144	04/13/11	Primary Sample	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.1	pg/L	Primary Result	JB	U	IV	B	25689G
PZ-144	04/13/11	Primary Sample	EPA 8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1.9	pg/L	Primary Result	J	J	IV	TR	25689G
PZ-144	04/13/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	7.3	pg/L	Primary Result	JBQC	U	IV	B	25689G
PZ-144	04/13/11	Primary Sample	EPA 8290	Octachlorodibenzofuran	4.3	pg/L	Primary Result	JBQC	U	IV	B	25689G
PZ-149	04/11/11	Primary Sample	EPA 300.0	Bromide	0.28	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00013	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 300.0	Nitrate-NO3	0.25	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00089	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00016	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0023	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 6020	Silver, Dissolved	0.00016	mg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.26	µg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 8260B	Acetone	10	µg/L	Primary Result	JB	U	V	B, T, F	25435A
PZ-149	04/11/11	Primary Sample	EPA 8260B	2-Chloroethylvinyl ether	0.31	µg/L	Primary Result	U	UJ	V	S	25435A
PZ-149	04/11/11	Primary Sample	EPA 8260B	Acrolein	2.8	µg/L	Primary Result	U	UJ	V	S	25435A
PZ-149	04/11/11	Primary Sample	EPA 8260B	Acrylonitrile	1.4	µg/L	Primary Result	U	UJ	V	S	25435A
PZ-149	04/11/11	Primary Sample	EPA 8260B	Methylene chloride	1	µg/L	Primary Result	JB	U	V	B, T, F	25435A
PZ-149	04/11/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.26	µg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	0.17	µg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	9.9	µg/L	Primary Result	JB	U	V	B, F	25435A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-149	04/11/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	0.27	µg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 8270C SIM	Benzo(a)anthracene	0.0036	µg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	9.9	µg/L	Primary Result	J	U	V	F	25435A
PZ-149	04/11/11	Primary Sample	EPA 8270C SIM	Naphthalene	0.006	µg/L	Primary Result	J	J	V	TR	25435A
PZ-149	04/11/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	27	pg/L	Primary Result	JB	U	IV	B, F	25689D
PZ-149	04/11/11	Primary Sample	EPA 8290	Octachlorodibenzofuran	2.3	pg/L	Primary Result	JQC	J	IV	TR	25689D
PZ-154	04/21/11	Primary Sample	EPA 6010B	Boron, Dissolved	0.39	mg/L	Primary Result		U	V	F	25468D
PZ-154	04/21/11	Primary Sample	EPA 6010B	Potassium, Dissolved	2.1	mg/L	Primary Result		U	V	F	25468D
PZ-154	04/21/11	Primary Sample	EPA 6010B	Sodium, Dissolved	490	mg/L	Primary Result	B	U	V	F	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0021	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.00086	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00037	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000023	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6010B	Calcium, Dissolved	330	mg/L	Primary Result		U	V	F	25468D
PZ-154	04/21/11	Primary Sample	EPA 6010B	Magnesium, Dissolved	33	mg/L	Primary Result		U	V	F	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00014	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Lead, Dissolved	0.00066	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000067	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0035	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0047	mg/L	Primary Result	J	J	V	TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	16	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,1,2,2-Tetrachloroethane	21	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,1,2-Trichloroethane	27	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,1,1,2-Tetrachloroethane	21	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	22	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	65	µg/L	Primary Result	J	J	V	S, TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,1-Dichloropropene	19	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,2,4-Trimethylbenzene	15	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,2-Dibromo-3-chloropropane	47	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,2-Dibromoethane	18	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,2-Dichloropropane	18	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	2-Hexanone	170	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Benzene	16	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,2,3-Trichlorobenzene	21	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,2,3-Trichloropropane	33	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,2,4-Trichlorobenzene	21	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,2-Dichlorobenzene	15	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,2-Dichloroethane	13	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,3,5-Trimethylbenzene	16	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,3-Dichlorobenzene	13	µg/L	Primary Result	U	UJ	V	S	25468D

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-154	04/21/11	Primary Sample	EPA 8260B	1,4-Dichlorobenzene	16	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Methyl isobutyl ketone (MIBK)	98	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Acetone	190	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Bromobenzene	17	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Bromochloromethane	10	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Bromodichloromethane	17	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	19	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Chlorobenzene	17	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Chloroethane	41	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	cis-1,3-Dichloropropene	16	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Cumene	19	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Dibromochloromethane	17	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Diisopropyl ether	74	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Ethylbenzene	16	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Hexachlorobutadiene	12	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Bromoform	19	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Bromomethane	21	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Carbon Disulfide	45	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Chloroform	16	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Chloromethane	30	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	26000	µg/L	Primary Result		J	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Dichlorodifluoromethane	31	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Iodomethane	23	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	34	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Methyl ethyl ketone	200	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	n-Propylbenzene	16	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	o-Chlorotoluene	17	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	o-Xylene	19	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	sec-Dichloropropane	18	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Styrene	17	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	tert-Amyl methyl ether	140	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Tetrachloroethene	20	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Tetrahydrofuran	200	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Toluene	17	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	trans-1,3-Dichloropropene	19	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Trichloroethene	44000	µg/L	Primary Result		J	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	29	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Methyl tert-butyl ether	25	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Methylene chloride	32	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	n-Butylbenzene	14	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	p-Chlorotoluene	21	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	p-Cymene	20	µg/L	Primary Result	U	UJ	V	S	25468D

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-154	04/21/11	Primary Sample	EPA 8260B	sec-Butylbenzene	17	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	tert-Butyl alcohol	380	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	tert-Butyl ethyl ether	120	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	tert-Butylbenzene	16	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	440	µg/L	Primary Result		J	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Vinyl acetate	94	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Vinyl chloride	84	µg/L	Primary Result	J	J	V	S, TR	25468D
PZ-154	04/21/11	Primary Sample	EPA 8260B	Xylenes, Total	19	µg/L	Primary Result	U	UJ	V	S	25468D
PZ-154	04/21/11	Primary Sample	EPA 8270C	Hexachlorocyclopentadiene	1.5	µg/L	Primary Result	U	R	V	L	25468D
PZ-155	04/12/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.002	mg/L	Primary Result	J	J	V	TR	25421A
PZ-155	04/12/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00084	mg/L	Primary Result	J	J	V	TR	25421A
PZ-155	04/12/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0008	mg/L	Primary Result	J	J	V	TR	25421A
PZ-155	04/12/11	Primary Sample	EPA 8015B	Diesel Range Organics (C21-C30)	0.057	mg/L	Primary Result	J	J	V	TR	25421A
PZ-155	04/12/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0027	mg/L	Primary Result	J	J	V	TR	25421A
PZ-155	04/12/11	Primary Sample	EPA 8260B	Acetone	10	µg/L	Primary Result	J	U	V	F	25421A
PZ-155	04/12/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.5	µg/L	Primary Result	J	J	V	TR	25421A
PZ-155	04/12/11	Primary Sample	EPA 8260B	Vinyl chloride	0.31	µg/L	Primary Result	J	J	V	TR	25421A
PZ-155	04/12/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.56	µg/L	Primary Result	J	J	V	TR	25421A
PZ-155	04/12/11	Primary Sample	EPA 8270C	n-Nitrosodi-n-propylamine	1.3	µg/L	Primary Result	J	J	V	TR	25421A
PZ-158	04/29/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0028	mg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00014	mg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 6020	Copper, Dissolved	0.00083	mg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000046	mg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.00051	mg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 6020	Manganese, Dissolved	0.0044	mg/L	Primary Result		U	V	F	25528D
PZ-158	04/29/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.003	mg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.002	mg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	E, L	25528D
PZ-158	04/29/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	L	25528D
PZ-158	04/29/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.47	µg/L	Primary Result	J	J	V	TR	25528D
PZ-158	04/29/11	Primary Sample	EPA 8260B	Trichloroethene	1	µg/L	Primary Result	JB	U	V	B, F, T	25528D
PZ-158	04/29/11	Primary Sample	EPA 8260B	Vinyl acetate	0.94	µg/L	Primary Result	U	UJ	V	E	25528D
PZ-158	04/29/11	Primary Sample	EPA 8270C	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B, F	25528D
PZ-159	04/13/11	Primary Sample	EPA 6010B	Boron, Dissolved	0.044	mg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 6020	Manganese, Dissolved	0.00069	mg/L	Primary Result	JB	U	V	B, F	25402A
PZ-159	04/13/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0012	mg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0016	mg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0045	mg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.001	mg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000071	mg/L	Primary Result	J	J	V	TR	25402A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-159	04/13/11	Primary Sample	EPA 6020	Copper, Dissolved	0.00063	mg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	50	µg/L	Primary Result	J	U	V	F	25402A
PZ-159	04/13/11	Primary Sample	EPA 8270C	Di-n-octyl phthalate	2.5	µg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	0.35	µg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	10	µg/L	Primary Result	J	U	V	F	25402A
PZ-159	04/13/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	10	µg/L	Primary Result	JB	U	V	B, F	25402A
PZ-159	04/13/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	0.079	µg/L	Primary Result	J	J	V	TR	25402A
PZ-159	04/13/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	4.1	pg/L	Primary Result	JB	U	V	B	25398D
RD-01	04/21/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	1.5	µg/L	Primary Result		J	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 300.0	Fluoride	0.41	mg/L	Primary Result	J	J	V	TR	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	420	µg/L	Primary Result		J	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	12	µg/L	Primary Result		J	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	0.85	µg/L	Primary Result	J	J	V	TR	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Trichloroethene	420	µg/L	Primary Result		J	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	25468D
RD-01	04/21/11	Primary Sample	EPA 8260B	Vinyl chloride	3.9	µg/L	Primary Result		J	V	S	25468D
RD-02	04/25/11	Primary Sample	EPA 350.1	Ammonia-N	0.068	mg/L	Primary Result	JB	U	V	B	25476B
RD-02	04/25/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	6.4	µg/L	Primary Result	J	J	V	S, TR	25476B
RD-02	04/25/11	Primary Sample	EPA 300.0	Fluoride	0.32	mg/L	Primary Result	J	J	V	TR	25476B
RD-02	04/25/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	1300	µg/L	Primary Result		J	V	Q	25476B
RD-02	04/25/11	Primary Sample	EPA 8260B	Methylene chloride	50	µg/L	Primary Result	J	UJ	V	T, S	25476B
RD-02	04/25/11	Primary Sample	EPA 8260B	Vinyl chloride	7.1	µg/L	Primary Result	J	J	V	S, TR	25476B
RD-02	04/25/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	74	µg/L	Primary Result		J	V	S	25476B
RD-02	04/25/11	Primary Sample	EPA 8260B	Trichloroethene	1300	µg/L	Primary Result		J	V	Q	25476B

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-02	04/25/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.3	µg/L	Primary Result	J	J	V	TR	25476B
RD-03	04/25/11	Primary Sample	EPA 350.1	Ammonia-N	0.06	mg/L	Primary Result	JB	U	V	B	25476B
RD-03	04/25/11	Primary Sample	EPA 300.0	Fluoride	0.43	mg/L	Primary Result	J	J	V	TR	25476B
RD-03	04/25/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.3	µg/L	Primary Result	J	J	V	TR	25476B
RD-03	04/25/11	Primary Sample	EPA 8315A	Formaldehyde	13	µg/L	Primary Result	J	J	V	TR	25476B
RD-05A	04/18/11	Primary Sample	EPA 300.0	Fluoride	0.25	mg/L	Primary Result	J	J	V	TR	25421C
RD-05A	04/18/11	Primary Sample	EPA 350.1	Ammonia-N	0.055	mg/L	Primary Result	J	J	V	TR	25421C
RD-05A	04/18/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	L	25421C
RD-05A	04/22/11	Primary Sample	EPA 8315A	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25473B
RD-05A	04/18/11	Primary Sample	EPA 8315A	Formaldehyde	13	µg/L	Primary Result	J	J	V	TR	25421C
RD-05B	04/18/11	Primary Sample	EPA 300.0	Fluoride	0.095	mg/L	Primary Result	J	J	V	TR	25421C
RD-05B	04/18/11	Primary Sample	EPA 350.1	Ammonia-N	0.1	mg/L	Primary Result	J	J	V	TR	25421C
RD-05B	04/18/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	L	25421C
RD-05B	04/18/11	Primary Sample	EPA 8315A	Formaldehyde	13	µg/L	Primary Result	J	J	V	TR	25421C
RD-05C	04/18/11	Primary Sample	EPA 350.1	Ammonia-N	0.18	mg/L	Primary Result	J	J	V	TR	25421C
RD-05C	04/18/11	Primary Sample	EPA 300.0	Fluoride	0.21	mg/L	Primary Result	J	J	V	TR	25421C
RD-05C	04/18/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	L	25421C
RD-05C	04/18/11	Primary Sample	EPA 8315A	Formaldehyde	15	µg/L	Primary Result	J	J	V	TR	25421C
RD-06	04/18/11	Primary Sample	EPA 350.1	Ammonia-N	0.055	mg/L	Primary Result	J	J	V	TR	25421C
RD-06	04/18/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	L	25421C
RD-08	04/11/11	Primary Sample	EPA 300.0	Fluoride	0.28	mg/L	Primary Result	J	J	V	TR	25435A
RD-08	04/11/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.0001	mg/L	Primary Result	J	J	V	TR	25435A
RD-08	04/11/11	Primary Sample	EPA 350.1	Ammonia-N	0.065	mg/L	Primary Result	J	J	V	TR	25435A
RD-08	04/11/11	Primary Sample	EPA 6020	Cobalt	0.000071	mg/L	Primary Result	J	J	V	TR	25435A
RD-08	04/11/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000055	mg/L	Primary Result	J	J	V	TR	25435A
RD-08	04/11/11	Primary Sample	EPA 6020	Tin	0.00017	mg/L	Primary Result	JB	U	V	B	25435A
RD-08	04/11/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00035	mg/L	Primary Result	JB	U	V	B	25435A
RD-08	04/11/11	Primary Sample	EPA 6020	Zinc	0.002	mg/L	Primary Result	J	J	V	TR	25435A
RD-08	04/11/11	Primary Sample	EPA 8260B	Acrolein	2.8	µg/L	Primary Result	U	UJ	V	S	25435A
RD-08	04/11/11	Primary Sample	EPA 8260B	Acrylonitrile	1.4	µg/L	Primary Result	U	UJ	V	S	25435A
RD-08	04/11/11	Primary Sample	EPA 8260B	Trichloroethene	0.22	µg/L	Primary Result	J	J	V	TR	25435A
RD-08	04/11/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	7	pg/L	Primary Result	JBQC	U	V	B	25382E
RD-11	04/11/11	Primary Sample	EPA 350.1	Ammonia-N	0.17	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00075	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	SM4500	Sulfide	0.029	mg/L	Primary Result	J	J	IV	TR	25667D
RD-11	04/11/11	Primary Sample	EPA 6020	Antimony	0.000085	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00016	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Arsenic	0.00073	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Cobalt	0.00042	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.0004	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Copper	0.0012	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Thallium	0.000021	mg/L	Primary Result	JB	U	V	B	25435A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-11	04/11/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000035	mg/L	Primary Result	JB	U	V	B	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00004	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000019	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00045	mg/L	Primary Result	JB	U	V	B	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Vanadium	0.00032	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00028	mg/L	Primary Result	J	J	V	TR	25435A
RD-11	04/11/11	Primary Sample	EPA 9012	Cyanides	0.0034	mg/L	Primary Result	J	J	IV	TR	25667D
RD-11	04/11/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	7.7	pg/L	Primary Result	JB	U	V	B	25382E
RD-11	04/11/11	Primary Sample	EPA 8290	Octachlorodibenzofuran	2.1	pg/L	Primary Result	JQC	J	V	TR	25382E
RD-12	04/11/11	Primary Sample	EPA 300.0	Fluoride	0.48	mg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 350.1	Ammonia-N	0.062	mg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.000074	mg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 6020	Cobalt	0.00057	mg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.0005	mg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 6020	Lead, Dissolved	0.00019	mg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 6020	Nickel	0.0019	mg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 6020	Tin, Dissolved	0.0002	mg/L	Primary Result	JB	U	V	B	25435A
RD-12	04/11/11	Primary Sample	EPA 8260B	Acrolein	2.8	µg/L	Primary Result	U	UJ	V	S	25435A
RD-12	04/11/11	Primary Sample	EPA 8260B	Acrylonitrile	1.4	µg/L	Primary Result	U	UJ	V	S	25435A
RD-12	04/11/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.22	µg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.1	µg/L	Primary Result	J	J	V	TR	25435A
RD-12	04/11/11	Primary Sample	EPA 9012	Cyanides	0.0036	mg/L	Primary Result	J	J	IV	TR	25667D
RD-12	04/11/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	4.1	pg/L	Primary Result	JB	U	V	B	25382E
RD-36A	04/07/11	Primary Sample	EPA 300.0	Fluoride	0.078	mg/L	Primary Result	J	J	V	TR	25382A
RD-36A	04/07/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.74	µg/L	Primary Result	J	J	IV	TR	25689B
RD-36A	04/07/11	Primary Sample	EPA 8270C	Diethyl phthalate	2	µg/L	Primary Result	J	J	IV	TR	25689B
RD-36B	04/07/11	Primary Sample	EPA 350.1	Ammonia-N	0.059	mg/L	Primary Result	J	J	V	TR	25382A
RD-36B	04/07/11	Primary Sample	EPA 300.0	Fluoride	0.14	mg/L	Primary Result	J	J	V	TR	25382A
RD-36B	04/07/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.19	µg/L	Primary Result	J	J	V	TR	25382A
RD-36B	04/07/11	Primary Sample	EPA 8260B	Chloroform	0.34	µg/L	Primary Result	J	J	V	TR	25382A
RD-36C	04/07/11	Primary Sample	EPA 350.1	Ammonia-N	0.28	mg/L	Primary Result	J	J	V	TR	25382A
RD-36C	04/07/11	Primary Sample	EPA 8015B	Diesel Range Organics (C21-C30)	0.092	mg/L	Primary Result	J	J	V	S, TR	25382A
RD-36C	04/07/11	Primary Sample	EPA 300.0	Fluoride	0.16	mg/L	Primary Result	J	J	V	TR	25382A
RD-36C	04/07/11	Primary Sample	EPA 8015B	Diesel Range Organics (C8-C30)	0.14	mg/L	Primary Result	J	J	V	S, TR	25382A
RD-36C	04/07/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.48	µg/L	Primary Result	J	J	V	TR	25382A
RD-36C	04/07/11	Primary Sample	EPA 8260B	Trichloroethene	0.38	µg/L	Primary Result	J	J	V	TR	25382A
RD-36C	04/07/11	Primary Sample	EPA 8260B	Toluene	0.18	µg/L	Primary Result	J	J	V	TR	25382A
RD-36D	04/07/11	Primary Sample	EPA 300.0	Fluoride	0.088	mg/L	Primary Result	J	J	V	TR	25382A
RD-36D	04/07/11	Primary Sample	EPA 8260B	Toluene	0.38	µg/L	Primary Result	J	J	V	TR	25382A
RD-36D	04/07/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.2	µg/L	Primary Result	J	J	V	TR	25382A
RD-36D	04/07/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	1.4	µg/L	Primary Result	J	J	IV	TR	25689B

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-36D	04/07/11	Primary Sample	EPA 8270C	Di-n-octyl phthalate	0.39	µg/L	Primary Result	J	J	IV	TR	25689B
RD-37	04/08/11	Primary Sample	EPA 350.1	Ammonia-N	0.058	mg/L	Primary Result	J	J	V	TR	25382C
RD-37	04/08/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	0.81	µg/L	Primary Result	J	J	V	Q	25382C
RD-37	04/08/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.31	µg/L	Primary Result	J	J	V	TR	25382C
RD-37	04/08/11	Primary Sample	EPA 8260B	Trichloroethene	0.17	µg/L	Primary Result	J	J	V	TR	25382C
RD-37	04/08/11	Primary Sample	EPA 8315A	Formaldehyde	27	µg/L	Primary Result	J	J	V	TR	25382C
RD-38B	04/22/11	Primary Sample	EPA 300.0	Fluoride	0.3	mg/L	Primary Result	J	J	V	TR	25473B
RD-38B	04/22/11	Primary Sample	EPA 350.1	Ammonia-N	0.06	mg/L	Primary Result	J	J	V	TR	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.53	µg/L	Primary Result	J	J	V	TR	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	25473B
RD-38B	04/22/11	Primary Sample	EPA 8315A	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25473B
RD-39B	04/08/11	Field Duplicate	EPA 300.0	Fluoride	0.11	mg/L	Primary Result	J	J	V	TR	25382C
RD-39B	04/08/11	Field Duplicate	EPA 8260B	Trichloroethene	0.39	µg/L	Primary Result	J	J	V	TR	25382C
RD-39B	04/08/11	Field Duplicate	EPA 8315A	Formaldehyde	18	µg/L	Primary Result	J	J	IV	TR	25689C
RD-39B	04/08/11	Primary Sample	EPA 300.0	Fluoride	0.13	mg/L	Primary Result	J	J	V	TR	25382C
RD-39B	04/08/11	Primary Sample	EPA 8260B	Trichloroethene	0.41	µg/L	Primary Result	J	J	V	TR	25382C
RD-39B	04/08/11	Primary Sample	EPA 8315A	Formaldehyde	20	µg/L	Primary Result	J	J	IV	TR	25689C
RD-41A	04/11/11	Primary Sample	EPA 300.0	Fluoride	0.42	mg/L	Primary Result	J	J	V	TR	25435A
RD-41A	04/11/11	Primary Sample	EPA 300.0	Nitrate-NO3	0.56	mg/L	Primary Result	J	J	V	TR	25435A
RD-41A	04/11/11	Primary Sample	EPA 6010B	Iron	0.046	mg/L	Primary Result	J	J	V	TR	25435A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-41A	04/11/11	Primary Sample	EPA 6010B	Potassium	3.7	mg/L	Primary Result	J	J	V	TR	25435A
RD-41A	04/11/11	Primary Sample	EPA 6010B	Potassium, Dissolved	3.8	mg/L	Primary Result	J	J	V	TR	25435A
RD-41A	04/11/11	Primary Sample	EPA 350.1	Ammonia-N	0.089	mg/L	Primary Result	J	J	V	TR	25435A
RD-41A	04/11/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.23	µg/L	Primary Result	J	J	V	TR	25435A
RD-43A	04/22/11	Primary Sample	EPA 300.0	Fluoride	0.46	mg/L	Primary Result	J	J	V	TR	25473B
RD-43B	04/22/11	Primary Sample	EPA 300.0	Fluoride	0.34	mg/L	Primary Result	J	J	V	TR	25473B
RD-43B	04/22/11	Primary Sample	EPA 350.1	Ammonia-N	0.095	mg/L	Primary Result	J	J	V	TR	25473B
RD-43B	04/22/11	Primary Sample	EPA 8315A	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25473B
RD-43C	04/22/11	Primary Sample	EPA 300.0	Fluoride	0.35	mg/L	Primary Result	J	J	V	TR	25473B
RD-43C	04/22/11	Primary Sample	EPA 350.1	Ammonia-N	0.077	mg/L	Primary Result	J	J	V	TR	25473B
RD-43C	04/22/11	Primary Sample	EPA 8315A	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25473B
RD-45A	04/25/11	Primary Sample	EPA 350.1	Ammonia-N	0.071	mg/L	Primary Result	JB	U	V	B	25476B
RD-45A	04/25/11	Primary Sample	EPA 300.0	Fluoride	0.26	mg/L	Primary Result	J	J	V	TR	25476B
RD-45A	04/25/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.24	µg/L	Primary Result	J	J	V	TR	25476B
RD-45A	04/25/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.89	µg/L	Primary Result	J	J	V	TR	25476B
RD-45A	04/25/11	Primary Sample	EPA 8260B	Acetone	8.2	µg/L	Primary Result	J	J	V	TR	25476B
RD-45A	04/25/11	Primary Sample	EPA 8260B	Methylene chloride	5	µg/L	Primary Result	J	U	V	T	25476B
RD-45B	04/22/11	Primary Sample	EPA 300.0	Fluoride	0.22	mg/L	Primary Result	J	J	V	TR	25473B
RD-45B	04/22/11	Primary Sample	EPA 350.1	Ammonia-N	0.058	mg/L	Primary Result	J	J	V	TR	25473B
RD-45B	04/22/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.1	µg/L	Primary Result	J	J	V	TR	25473B
RD-45B	04/22/11	Primary Sample	EPA 8315A	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25473B
RD-45C	04/22/11	Primary Sample	EPA 300.0	Fluoride	0.3	mg/L	Primary Result	J	J	V	TR	25473B
RD-45C	04/22/11	Primary Sample	EPA 350.1	Ammonia-N	0.063	mg/L	Primary Result	J	J	V	TR	25473B
RD-45C	04/22/11	Primary Sample	EPA 8260B	Methylene chloride	5	µg/L	Primary Result	JB	U	V	B, T	25473B
RD-45C	04/22/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	E	25473B
RD-45C	04/22/11	Primary Sample	EPA 8315A	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25473B

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-46A	04/21/11	Primary Sample	EPA 300.0	Fluoride	0.37	mg/L	Primary Result	J	J	V	TR	25468D
RD-46A	04/21/11	Primary Sample	EPA 350.1	Ammonia-N	0.057	mg/L	Primary Result	J	J	V	TR	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	23	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	1,2-Dichloroethane	13	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Acetone	190	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Benzene	16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	19	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Ethylbenzene	16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Isopropanol	1300	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	o-Xylene	19	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Tetrachloroethene	20	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Toluene	17	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Trichloroethene	27000	µg/L	Primary Result		J	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	29	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Vinyl chloride	10	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	42	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	1,1,2-Trichloroethane	27	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	22	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Chloroform	23	µg/L	Primary Result	J	J	V	S, TR	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	330	µg/L	Primary Result		J	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	34	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Methyl ethyl ketone	200	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	Methylene chloride	32	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	15	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46A	04/21/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.3	µg/L	Primary Result	J	J	V	TR	25468D
RD-46B	04/21/11	Primary Sample	EPA 300.0	Fluoride	0.19	mg/L	Primary Result	J	J	V	TR	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Trichloroethene	0.87	µg/L	Primary Result	J	J	V	S, TR	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.42	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	25468D

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-46B	04/21/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Isopropanol	13	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Toluene	0.4	µg/L	Primary Result	J	J	V	S, TR	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	25468D
RD-46B	04/21/11	Primary Sample	EPA 8315A	Formaldehyde	11	µg/L	Primary Result	J	J	V	TR	25468D
RD-48A	04/06/11	Primary Sample	EPA 350.1	Ammonia-N	0.26	mg/L	Primary Result	JB	U	V	B	25351A
RD-48A	04/06/11	Primary Sample	EPA 300.0	Fluoride	0.13	mg/L	Primary Result	J	J	V	TR	25351A
RD-48A	04/06/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.88	µg/L	Primary Result	J	J	V	TR	25351A
RD-48A	04/06/11	Primary Sample	DV-WC-0077	Hydrazine	0.93	µg/L	Primary Result	J	J	IV	TR	25689A
RD-48A	04/06/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	2.5	µg/L	Primary Result		U	V	T	25351A
RD-48B	04/06/11	Primary Sample	EPA 350.1	Ammonia-N	0.21	mg/L	Primary Result	JB	U	V	B	25351A
RD-48B	04/06/11	Primary Sample	EPA 300.0	Fluoride	0.33	mg/L	Primary Result	J	J	V	TR	25351A
RD-48B	04/06/11	Primary Sample	EPA 8270C	Di-n-octyl phthalate	11	µg/L	Primary Result	JB	U	V	B	25351A
RD-48C	04/22/11	Primary Sample	EPA 300.0	Fluoride	0.29	mg/L	Primary Result	J	J	V	TR	25473B
RD-48C	04/22/11	Primary Sample	EPA 350.1	Ammonia-N	0.14	mg/L	Primary Result	J	J	V	TR	25473B
RD-48C	04/22/11	Primary Sample	EPA 8015B	Diesel Range Organics (C12-C14)	0.071	mg/L	Primary Result	J	J	V	TR	25473B
RD-48C	04/22/11	Primary Sample	EPA 8015B	Diesel Range Organics (C8-C30)	0.081	mg/L	Primary Result	J	J	V	TR	25473B
RD-48C	04/22/11	Primary Sample	EPA 8315A	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25473B
RD-49A	04/15/11	Primary Sample	EPA 350.1	Ammonia-N	0.09	mg/L	Primary Result	J	J	V	TR	25435B
RD-49A	04/15/11	Primary Sample	EPA 300.0	Fluoride	0.35	mg/L	Primary Result	J	J	V	TR	25435B
RD-49A	04/15/11	Primary Sample	EPA 6010B	Calcium, Dissolved	160	mg/L	Primary Result		J	V	Q	25435B
RD-49A	04/15/11	Primary Sample	EPA 8015B	Diesel Range Organics (C8-C30)	0.16	mg/L	Primary Result	J	J	V	TR	25435B
RD-49A	04/15/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	3.8	µg/L	Primary Result	J	J	V	TR	25435B
RD-49A	04/15/11	Primary Sample	EPA 8015B	Kerosene Range (C15-C20)	0.11	mg/L	Primary Result	J	J	V	TR	25435B
RD-49A	04/15/11	Primary Sample	EPA 8260B	Methylene chloride	25	µg/L	Primary Result	J	U	V	T	25435B
RD-49A	04/15/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	2.6	µg/L	Primary Result	J	J	V	TR	25435B
RD-49A	04/15/11	Primary Sample	EPA 8315A	Formaldehyde	17	µg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Field Duplicate	EPA 300.0	Fluoride	0.22	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Field Duplicate	EPA 6010B	Potassium, Dissolved	4.6	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Field Duplicate	EPA 6010B	Calcium, Dissolved	160	mg/L	Primary Result		J	V	Q	25435B
RD-49B	04/15/11	Field Duplicate	EPA 6010B	Potassium	4.6	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Field Duplicate	EPA 8260B	1,1-Dichloroethene	0.64	µg/L	Primary Result	J	J	V	S, TR	25435B
RD-49B	04/15/11	Field Duplicate	EPA 8260B	cis-1,2-Dichloroethene	230	µg/L	Primary Result		J	V	S	25435B
RD-49B	04/15/11	Field Duplicate	EPA 8260B	trans-1,2-Dichloroethene	11	µg/L	Primary Result		J	V	S	25435B
RD-49B	04/15/11	Field Duplicate	EPA 8260B	Trichloroethene	220	µg/L	Primary Result		J	V	S	25435B
RD-49B	04/15/11	Field Duplicate	EPA 8260B	Vinyl chloride	2.2	µg/L	Primary Result		J	V	S	25435B
RD-49B	04/15/11	Field Duplicate	EPA 8270C	bis(2-Ethylhexyl) phthalate	2.1	µg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Field Duplicate	EPA 8315A	Formaldehyde	9.5	µg/L	Primary Result	J	J	V	TR	25435B

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-49B	04/15/11	Primary Sample	EPA 300.0	Fluoride	0.22	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 6010B	Calcium, Dissolved	160	mg/L	Primary Result		J	V	Q	25435B
RD-49B	04/15/11	Primary Sample	EPA 6010B	Potassium	4.5	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 6010B	Potassium, Dissolved	4.6	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 350.1	Ammonia-N	0.069	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 8015B	Kerosene Range (C15-C20)	0.039	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 8015B	Diesel Range Organics (C21-C30)	0.04	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	240	µg/L	Primary Result		J	V	S	25435B
RD-49B	04/15/11	Primary Sample	EPA 8015B	Diesel Range Organics (C8-C30)	0.089	mg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.58	µg/L	Primary Result	J	J	V	S, TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 8260B	Vinyl chloride	2.1	µg/L	Primary Result		J	V	S	25435B
RD-49B	04/15/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	2.5	µg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	11	µg/L	Primary Result		J	V	S	25435B
RD-49B	04/15/11	Primary Sample	EPA 8260B	Trichloroethene	230	µg/L	Primary Result		J	V	S	25435B
RD-49B	04/15/11	Primary Sample	EPA 8270C	Di-n-octyl phthalate	2.4	µg/L	Primary Result	J	J	V	TR	25435B
RD-49B	04/15/11	Primary Sample	EPA 8315A	Formaldehyde	15	µg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 314.0	Perchlorate	0.78	µg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 300.0	Fluoride	0.24	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Antimony	0.00023	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00023	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Arsenic	0.00058	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Cobalt	0.000076	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000066	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Copper	0.00057	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00062	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Lead	0.00027	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Lead, Dissolved	0.00025	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Silver	0.000021	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000017	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Tin, Dissolved	0.0005	mg/L	Primary Result	JB	U	V	B	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Nickel	0.00088	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00076	mg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000021	mg/L	Primary Result	JB	U	V	B	25435B
RD-49C	04/15/11	Primary Sample	EPA 6020	Tin	0.001	mg/L	Primary Result	JB	U	V	B	25435B
RD-49C	04/15/11	Primary Sample	EPA 8260B	Vinyl chloride	0.5	µg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	0.86	µg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	2	µg/L	Primary Result	J	J	V	TR	25435B
RD-49C	04/15/11	Primary Sample	EPA 8315A	Formaldehyde	22	µg/L	Primary Result	J	J	V	TR	25435B
RD-51A	04/08/11	Primary Sample	EPA 300.0	Fluoride	0.48	mg/L	Primary Result	J	J	V	TR	25382C
RD-51A	04/08/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.27	µg/L	Primary Result	J	J	V	TR	25382C
RD-51A	04/08/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	JB	U	V	B	25382C
RD-51B	04/13/11	Primary Sample	EPA 350.1	Ammonia-N	0.15	mg/L	Primary Result	J	J	V	TR	25402A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-51B	04/13/11	Primary Sample	EPA 300.0	Fluoride	0.29	mg/L	Primary Result	J	J	V	TR	25402A
RD-51B	04/13/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	2.4	µg/L	Primary Result	J	J	V	TR	25402A
RD-51B	04/13/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.36	µg/L	Primary Result	J	J	V	TR	25402A
RD-51C	04/13/11	Primary Sample	EPA 300.0	Fluoride	0.19	mg/L	Primary Result	J	J	V	TR	25402A
RD-51C	04/13/11	Primary Sample	EPA 350.1	Ammonia-N	0.13	mg/L	Primary Result	J	J	V	TR	25402A
RD-52A	04/20/11	Primary Sample	EPA 350.1	Ammonia-N	0.29	mg/L	Primary Result	J	J	V	TR	25468B
RD-52A	04/20/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	2.6	µg/L	Primary Result		J	V	S	25468B
RD-52A	04/20/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	6.9	µg/L	Primary Result		J	V	S	25468B
RD-52A	04/20/11	Primary Sample	EPA 300.0	Fluoride	0.38	mg/L	Primary Result	J	J	V	TR	25468B
RD-52A	04/20/11	Primary Sample	EPA 8260B	Vinyl chloride	23	µg/L	Primary Result		J	V	S	25468B
RD-52A	04/20/11	Primary Sample	EPA 9040B	pH	7.09	pH Units	Primary Result	HTV	J	V	H	25468B
RD-52B	04/20/11	Primary Sample	EPA 350.1	Ammonia-N	0.11	mg/L	Primary Result	J	J	V	TR	25468B
RD-52B	04/20/11	Primary Sample	EPA 300.0	Fluoride	0.2	mg/L	Primary Result	J	J	V	TR	25468B
RD-52B	04/20/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.39	µg/L	Primary Result	J	J	V	TR	25468B
RD-52B	04/20/11	Primary Sample	EPA 8260B	Acetone	2.4	µg/L	Primary Result	J	J	V	TR	25468B
RD-52B	04/20/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	25468B
RD-52B	04/20/11	Primary Sample	EPA 9040B	pH	7.25	pH Units	Primary Result	HTV	J	V	H	25468B
RD-52B	04/20/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.4	µg/L	Primary Result	J	J	V	TR	25468B
RD-52C	04/20/11	Primary Sample	EPA 300.0	Fluoride	0.24	mg/L	Primary Result	J	J	V	TR	25468B
RD-52C	04/20/11	Primary Sample	EPA 350.1	Ammonia-N	0.059	mg/L	Primary Result	J	J	V	TR	25468B
RD-52C	04/20/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	25468B
RD-52C	04/20/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.1	µg/L	Primary Result	J	J	V	TR	25468B
RD-52C	04/20/11	Primary Sample	EPA 9040B	pH	7.42	pH Units	Primary Result	HTV	J	V	H	25468B
RD-53	04/25/11	Primary Sample	EPA 350.1	Ammonia-N	0.08	mg/L	Primary Result	JB	U	V	B	25476B
RD-53	04/25/11	Primary Sample	EPA 300.0	Fluoride	0.17	mg/L	Primary Result	J	J	V	TR	25476B
RD-53	04/25/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.99	µg/L	Primary Result	J	J	V	TR	25476B
RD-53	04/25/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.3	µg/L	Primary Result	J	J	V	TR	25476B
RD-53	04/25/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.33	µg/L	Primary Result	J	J	V	TR	25476B
RD-53	04/25/11	Primary Sample	EPA 9040B	pH	7.14	pH Units	Primary Result	HTV	J	V	H	25476B
RD-55A	04/26/11	Primary Sample	EPA 300.0	Fluoride	0.34	mg/L	Primary Result	J	J	V	TR	25528A
RD-55A	04/26/11	Primary Sample	EPA 300.0	Nitrate-NO3	19	mg/L	Primary Result	HTV	UJ	V	H	25528A
RD-55A	04/26/11	Primary Sample	EPA 350.1	Ammonia-N	0.066	mg/L	Primary Result	JB	U	V	B	25528A
RD-55A	04/26/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.5	µg/L	Primary Result	J	J	V	TR	25528A
RD-55A	04/26/11	Primary Sample	EPA 8260B	Trichloroethene	0.48	µg/L	Primary Result	J	J	V	TR	25528A
RD-55A	04/26/11	Primary Sample	EPA 8270C	Diethyl phthalate	9.5	µg/L	Primary Result	JB	U	V	B	25528A
RD-55A	04/26/11	Primary Sample	EPA 8315A	Formaldehyde	11	µg/L	Primary Result	J	J	V	TR	25528A
RD-55A	04/26/11	Primary Sample	EPA 9040B	pH	7.34	pH Units	Primary Result	HTV	J	V	H	25528A
RD-55B	04/26/11	Primary Sample	EPA 350.1	Ammonia-N	0.1	mg/L	Primary Result	JB	U	V	B	25528A
RD-55B	04/26/11	Primary Sample	EPA 300.0	Nitrate-NO3	0.19	mg/L	Primary Result	UHTV	UJ	V	H	25528A
RD-55B	04/26/11	Primary Sample	EPA 8270C	Diethyl phthalate	9.5	µg/L	Primary Result	JB	U	V	B	25528A
RD-55B	04/26/11	Primary Sample	EPA 8315A	Formaldehyde	12	µg/L	Primary Result	J	J	V	TR	25528A
RD-55B	04/26/11	Primary Sample	EPA 9040B	pH	7.9	pH Units	Primary Result	HTV	J	V	H	25528A

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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RD-58A	04/06/11	Primary Sample	EPA 300.0	Fluoride	0.4	mg/L	Primary Result	J	J	V	TR	25351A
RD-58A	04/06/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	2.9	µg/L	Primary Result	J	J	V	TR	25351A
RD-58A	04/06/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.85	µg/L	Primary Result	J	J	V	TR	25351A
RD-58A	04/06/11	Primary Sample	EPA 9040B	pH	7.11	pH Units	Primary Result	HTV	J	V	H	25351A
RD-58B	04/06/11	Primary Sample	EPA 350.1	Ammonia-N	0.083	mg/L	Primary Result	JB	U	V	B	25351A
RD-58B	04/06/11	Primary Sample	EPA 300.0	Fluoride	0.42	mg/L	Primary Result	J	J	V	TR	25351A
RD-58B	04/06/11	Primary Sample	EPA 314.0	Perchlorate	0.67	µg/L	Primary Result	J	J	V	TR	25351A
RD-58B	04/06/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.67	µg/L	Primary Result	J	J	V	TR	25351A
RD-58B	04/06/11	Primary Sample	EPA 8270C	Di-n-octyl phthalate	9.7	µg/L	Primary Result	JB	U	V	B	25351A
RD-58C	04/06/11	Primary Sample	EPA 300.0	Fluoride	0.28	mg/L	Primary Result	J	J	V	TR	25351A
RD-58C	04/06/11	Primary Sample	EPA 350.1	Ammonia-N	0.14	mg/L	Primary Result	JB	U	V	B	25351A
RD-58C	04/06/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.62	µg/L	Primary Result	J	J	V	TR	25351A
RD-58C	04/06/11	Primary Sample	EPA 8260B	Vinyl chloride	0.73	µg/L	Primary Result	J	J	V	TR	25351A
RD-58C	04/06/11	Primary Sample	EPA 9040B	pH	7.8	pH Units	Primary Result	HTV	J	V	H	25351A
RD-58C	04/06/11	Primary Sample	EPA 8270C	Di-n-octyl phthalate	9.8	µg/L	Primary Result	JB	U	V	B	25351A
RD-68A	04/18/11	Primary Sample	EPA 300.0	Fluoride	0.28	mg/L	Primary Result	J	J	V	TR	25421C
RD-68A	04/18/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	L	25421C
RD-68B	04/18/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	L	25421C
RD-68B	04/18/11	Primary Sample	EPA 8315A	Formaldehyde	9.4	µg/L	Primary Result	J	J	IV	TR	25689H
RD-77	04/22/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.0023	mg/L	Primary Result	J	J	V	TR	25473B
RD-77	04/22/11	Primary Sample	EPA 6010B	Potassium	3.4	mg/L	Primary Result	J	J	V	TR	25473B
RD-77	04/22/11	Primary Sample	EPA 6010B	Potassium, Dissolved	3.5	mg/L	Primary Result	J	J	V	TR	25473B
RD-77	04/22/11	Primary Sample	EPA 300.0	Fluoride	0.22	mg/L	Primary Result	J	J	V	TR	25473B
RD-77	04/22/11	Primary Sample	EPA 6010B	Manganese	0.0027	mg/L	Primary Result	J	J	V	TR	25473B
RD-77	04/22/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	6.4	µg/L	Primary Result	J	J	V	S, TR	25473B
RD-77	04/22/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	5.8	µg/L	Primary Result	J	J	V	S, TR	25473B
RD-77	04/22/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	84	µg/L	Primary Result		J	V	S	25473B
RD-77	04/22/11	Primary Sample	EPA 8260B	Chloroform	3	µg/L	Primary Result	J	J	V	S, TR	25473B
RD-77	04/22/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	140	µg/L	Primary Result		J	V	S	25473B
RD-77	04/22/11	Primary Sample	EPA 8260B	Trichloroethene	3000	µg/L	Primary Result		J	V	S	25473B
RD-77	04/22/11	Primary Sample	EPA 8315A	Formaldehyde	50	µg/L	Primary Result	JB	U	V	B	25473B
RD-98	04/12/11	Primary Sample	EPA 900.0	Gross alpha, Particulate	0.771	pCi/L	Primary Result	J	J	V	L, TR	25473A
RD-98	04/12/11	Primary Sample	EPA 900.0	Gross Alpha, Dissolved	3.24	pCi/L	Primary Result		J	V	L	25473A
RD-98	04/12/11	Primary Sample	EPA 908.0	Uranium-235, Dissolved	0.247	pCi/L	Primary Result	J	J	V	TR	25473A
RS-07	04/21/11	Primary Sample	EPA 8015B	Diesel Range Organics (C12-C14)	0.064	mg/L	Primary Result	J	J	V	TR	25468D
RS-07	04/21/11	Primary Sample	EPA 350.1	Ammonia-N	0.064	mg/L	Primary Result	J	U	V	F	25468D
RS-07	04/21/11	Primary Sample	EPA 8270C	Diethyl phthalate	1	µg/L	Primary Result	J	J	V	TR	25468D
RS-07	04/21/11	Primary Sample	EPA 9040B	pH	7.31	pH Units	Primary Result	HTV	J	V	H	25468D
RS-08	04/13/11	Primary Sample	EPA 300.0	Fluoride	0.42	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 300.0	Nitrate-NO3	2	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Arsenic	0.0017	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0019	mg/L	Primary Result	J	J	V	TR	25402A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RS-08	04/13/11	Primary Sample	EPA 6020	Antimony	0.00025	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00023	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Cobalt	0.00021	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.0002	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Cadmium	0.000058	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000058	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Silver	0.000016	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Tin	0.00031	mg/L	Primary Result	JB	U	V	B	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00017	mg/L	Primary Result	JB	U	V	B	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Vanadium	0.0011	mg/L	Primary Result	J	J	V	Q, TR	25402A
RS-08	04/13/11	Primary Sample	EPA 7470A	Mercury	0.000034	mg/L	Primary Result	JB	U	V	B	25402A
RS-08	04/13/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000035	mg/L	Primary Result	JB	U	V	B	25402A
RS-08	04/13/11	Primary Sample	EPA 8081A	Dieldrin	0.006	µg/L	Primary Result	U	UJ	V	E	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Thallium	0.000029	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Zinc	0.0023	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0024	mg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 8081A	4,4'-DDT	0.014	µg/L	Primary Result	U	UJ	V	E	25402A
RS-08	04/13/11	Primary Sample	EPA 8081A	Aldrin	0.0056	µg/L	Primary Result	U	UJ	V	E	25402A
RS-08	04/13/11	Primary Sample	EPA 8081A	Heptachlor	0.0073	µg/L	Primary Result	U	UJ	V	E	25402A
RS-08	04/13/11	Primary Sample	EPA 8081A	gamma-BHC	0.0066	µg/L	Primary Result	U	UJ	V	E	25402A
RS-08	04/13/11	Primary Sample	EPA 8151A	2,4,5-T	0.18	µg/L	Primary Result	U	UJ	V	E	25402A
RS-08	04/13/11	Primary Sample	EPA 8151A	2,4,5-Trichlorophenoxypropionic acid	0.16	µg/L	Primary Result	U	UJ	V	E	25402A
RS-08	04/13/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.2	µg/L	Primary Result	U	UJ	V	E	25402A
RS-08	04/13/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.5	µg/L	Primary Result	J	J	V	TR	25402A
RS-08	04/13/11	Primary Sample	EPA 9040B	pH	7.2	pH Units	Primary Result	HTV	J	V	H	25402A
RS-13	04/28/11	Primary Sample	EPA 300.0	Nitrate-NO3	0.43	mg/L	Primary Result	J	U	V	F	25528C
RS-13	04/28/11	Primary Sample	EPA 6010B	Antimony, Dissolved	0.0034	mg/L	Primary Result	JB	U	V	B	25528C
RS-13	04/28/11	Primary Sample	EPA 6010B	Potassium, Dissolved	0.54	mg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 300.0	Fluoride	0.5	mg/L	Primary Result		U	V	F	25528C
RS-13	04/28/11	Primary Sample	EPA 350.1	Ammonia-N	0.078	mg/L	Primary Result	JB	U	V	B, F	25528C
RS-13	04/28/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00012	mg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 6020	Manganese, Dissolved	0.0028	mg/L	Primary Result		U	V	F	25528C
RS-13	04/28/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000042	mg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0022	mg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0043	mg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000095	mg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 6020	Copper, Dissolved	0.001	mg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0012	mg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	25528C

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RS-13	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,2,4-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,2,4-Trimethylbenzene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,2-Dibromo-3-chloropropane	0.47	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,2-Dichloropropane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,1,1,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,1,2,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,2,3-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,2,3-Trichloropropane	0.33	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,2-Dibromoethane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,2-Dichlorobenzene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,3,5-Trimethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,3-Dichlorobenzene	0.13	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	1,4-Dichlorobenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Methyl isobutyl ketone (MIBK)	0.98	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Bromobenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Bromochloromethane	0.1	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Bromodichloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Chlorobenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Chloroethane	0.41	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	2-Hexanone	1.7	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Bromoform	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Bromomethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Chloromethane	0.3	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Dichlorodifluoromethane	0.31	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Iodomethane	0.23	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	n-Propylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	o-Chlorotoluene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	sec-Dichloropropane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Styrene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RS-13	04/28/11	Primary Sample	EPA 8260B	tert-Amyl methyl ether	1.4	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	cis-1,3-Dichloropropene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Cumene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Diisopropyl ether	0.74	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Hexachlorobutadiene	0.12	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Methyl tert-butyl ether	0.25	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	n-Butylbenzene	0.14	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	p-Chlorotoluene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	p-Cymene	0.2	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	sec-Butylbenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	tert-Butyl alcohol	3.8	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	tert-Butyl ethyl ether	1.2	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	tert-Butylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Vinyl acetate	0.94	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Xylenes, Total	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Tetrahydrofuran	2	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	trans-1,3-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	25528C
RS-13	04/28/11	Primary Sample	EPA 8270C	Diethyl phthalate	9.7	µg/L	Primary Result	JB	U	V	B	25528C
RS-13	04/28/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	9.5	µg/L	Primary Result	JB	U	V	B	25528C
RS-13	04/28/11	Primary Sample	EPA 8270C SIM	Butyl benzyl phthalate	0.11	µg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	0.27	µg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	0.019	µg/L	Primary Result	J	J	V	TR	25528C
RS-13	04/28/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	9.5	µg/L	Primary Result	JB	U	V	B	25528C
RS-13	04/28/11	Primary Sample	EPA 9040B	pH	7.45	pH Units	Primary Result	HTV	J	V	H	25528C
RS-13	04/28/11	Primary Sample	DV-WC-0077	Hydrazine	1.8	µg/L	Primary Result	J	J	IV	TR	25689I
RS-29	04/13/11	Primary Sample	EPA 300.0	Nitrate-NO3	1	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 300.0	Nitrite-N	0.22	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 6010B	Aluminum, Dissolved	0.021	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00011	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.00082	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0032	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 7196A	Hexavalent Chromium	0.0047	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 7196A	Hexavalent Chromium, Dissolved	0.0064	mg/L	Primary Result	J	J	V	TR	25402A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RS-29	04/13/11	Primary Sample	EPA 8015B	Diesel Range Organics (C21-C30)	0.084	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 8015B	Diesel Range Organics (C8-C30)	0.11	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0021	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000024	mg/L	Primary Result	JB	U	V	B	25402A
RS-29	04/13/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0049	mg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000041	mg/L	Primary Result	JB	U	V	B	25402A
RS-29	04/13/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.54	µg/L	Primary Result	J	J	V	TR	25402A
RS-29	04/13/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	3.2	µg/L	Primary Result	J	J	IV	TR	25689F
RS-29	04/13/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	0.34	µg/L	Primary Result	J	J	IV	TR	25689F
RS-29	04/13/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	9.6	µg/L	Primary Result	JB	U	IV	B	25689F
RS-29	04/13/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	0.034	µg/L	Primary Result	J	J	IV	TR	25689F
RS-33	04/07/11	Primary Sample	EPA 6010B	Manganese	0.0046	mg/L	Primary Result	JB	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Arsenic	0.0014	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.0036	mg/L	Primary Result	JB	U	V	B	25382A
RS-33	04/07/11	Primary Sample	EPA 6010B	Potassium	4.5	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6010B	Potassium, Dissolved	4.3	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Antimony	0.00013	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00019	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Cobalt	0.00044	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00047	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Copper	0.001	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Tin	0.0012	mg/L	Primary Result	JB	U	V	B	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00057	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Vanadium	0.0014	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 7470A	Mercury	0.000048	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000036	mg/L	Primary Result	JB	U	V	B	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Zinc	0.0054	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0084	mg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.26	µg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8260B	Chloroform	0.24	µg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.32	µg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.36	µg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8260B	Vinyl chloride	0.59	µg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	1.8	µg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8270C	Fluoranthene	0.28	µg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.77	µg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8270C	Phenanthrene	0.32	µg/L	Primary Result	J	J	V	TR	25382A
RS-33	04/07/11	Primary Sample	EPA 8315A	Formaldehyde	13	µg/L	Primary Result	J	J	V	TR	25382A
RS-34	04/27/11	Primary Sample	EPA 300.0	Fluoride	0.35	mg/L	Primary Result	J	J	V	TR	25528B

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
RS-34	04/27/11	Primary Sample	EPA 504.1	1,2-Dibromoethane	0.0037	µg/L	Primary Result	U	UJ	V	L	25528B
RS-34	04/27/11	Primary Sample	EPA 6010B	Iron	0.043	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6010B	Iron, Dissolved	0.031	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.0027	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 350.1	Ammonia-N	0.071	mg/L	Primary Result	JB	U	V	B	25528B
RS-34	04/27/11	Primary Sample	EPA 6010B	Manganese	0.0034	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Arsenic	0.0017	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Copper	0.0011	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0012	mg/L	Primary Result	JB	U	V	B	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Selenium	0.0013	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0015	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Antimony	0.00014	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00014	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Cobalt	0.00015	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00012	mg/L	Primary Result	JB	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0019	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Tin	0.00084	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00061	mg/L	Primary Result	JB	U	V	B	25528B
RS-34	04/27/11	Primary Sample	EPA 6020	Vanadium	0.0022	mg/L	Primary Result	J	J	V	TR	25528B
RS-34	04/27/11	Primary Sample	EPA 7470A	Mercury	0.000027	mg/L	Primary Result	U	UJ	V	L	25528B
RS-34	04/27/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	L	25528B
RS-34	04/27/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	L	25528B
RS-34	04/27/11	Primary Sample	EPA 8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	L	25528B
RS-34	04/27/11	Primary Sample	EPA 8270C	Diethyl phthalate	9.5	µg/L	Primary Result	JB	U	V	B	25528B
RS-34	04/27/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	9.1	pg/L	Primary Result	JQC	J	IV	TR	25667Q
RS-34	04/27/11	Primary Sample	EPA 9012	Cyanides	0.0038	mg/L	Primary Result	JB	U	IV	B	25667P
RS-34	04/27/11	Primary Sample	EPA 9040B	pH	7.71	pH Units	Primary Result	HTV	J	V	H	25528B
SH-02	04/08/11	Primary Sample	EPA 6010B	Manganese	0.0072	mg/L	Primary Result	JB	J	V	TR	25382C
SH-02	04/08/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.00028	mg/L	Primary Result	JB	U	V	B, F	25382C
SH-02	04/08/11	Primary Sample	EPA 6010B	Potassium	1.5	mg/L	Primary Result	J	J	V	TR	25382C
SH-02	04/08/11	Primary Sample	EPA 350.1	Ammonia-N	0.057	mg/L	Primary Result	J	U	V	F	25382C
SH-02	04/08/11	Primary Sample	EPA 6010B	Potassium, Dissolved	1.6	mg/L	Primary Result	J	J	V	TR	25382C
SH-02	04/08/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.89	µg/L	Primary Result	J	J	V	TR	25382C
SH-02	04/08/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.24	µg/L	Primary Result	J	J	V	TR	25382C
SH-02	04/08/11	Primary Sample	EPA 8260B	Vinyl chloride	0.39	µg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Field Duplicate	EPA 1625M	n-Nitrosodimethylamine	0.066	µg/L	Primary Result		J	V	XVI	25398A
SH-03	04/08/11	Primary Sample	EPA 350.1	Ammonia-N	0.057	mg/L	Primary Result	J	U	V	F	25382C
SH-03	04/08/11	Primary Sample	EPA 524.2	1,2,3-Trichloropropane	0.0023	µg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6010B	Manganese	0.0012	mg/L	Primary Result	JB	U	V	B	25382C
SH-03	04/08/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.00052	mg/L	Primary Result	JB	U	V	B, F	25382C
SH-03	04/08/11	Primary Sample	EPA 6010B	Potassium	0.93	mg/L	Primary Result	J	J	V	TR	25382C

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
SH-03	04/08/11	Primary Sample	EPA 6020	Antimony	0.00018	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Chromium	0.002	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Cobalt	0.00015	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Nickel	0.00069	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6010B	Potassium, Dissolved	1.1	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00018	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Arsenic	0.00056	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00055	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Cadmium	0.00011	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00033	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00016	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Copper	0.00094	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Copper, Dissolved	0.00092	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00084	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Selenium	0.00079	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000032	mg/L	Primary Result	JB	U	V	B	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Tin	0.00042	mg/L	Primary Result	JB	U	V	B, F	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00046	mg/L	Primary Result	JB	U	V	B, F	25382C
SH-03	04/08/11	Primary Sample	EPA 7470A	Mercury	0.000035	mg/L	Primary Result	J	U	V	F	25382C
SH-03	04/08/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000038	mg/L	Primary Result	JB	U	V	B, F	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Silver	0.000024	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000044	mg/L	Primary Result	J	U	V	F	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Thallium	0.00002	mg/L	Primary Result	JB	U	V	B	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Vanadium	0.0014	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 8151A	Dinoseb	0.17	µg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.25	µg/L	Primary Result	J	J	V	TR	25382C
SH-03	04/08/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	9.1	µg/L	Primary Result		J	V	Q	25382C
SH-03	04/08/11	Primary Sample	EPA 8290	dioxin	28	pg/L	Primary Result	JQC	J	IV	TR	25667C
SH-03	04/08/11	Primary Sample	EPA 9012	Cyanides	0.0028	mg/L	Primary Result	J	U	V	F	25382C
SH-03	04/08/11	Primary Sample	EPA 8290	Octachlorodibenzofuran	3.6	pg/L	Primary Result	JQC	J	IV	TR	25667C
SH-04	04/07/11	Primary Sample	EPA 6020	Arsenic	0.0011	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0011	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Cadmium	0.000066	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00009	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Chromium	0.0036	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Copper	0.0015	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 350.1	Ammonia-N	0.088	mg/L	Primary Result	J	U	V	F	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Antimony	0.0003	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00025	mg/L	Primary Result	J	J	V	TR	25382A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
SH-04	04/07/11	Primary Sample	EPA 6020	Beryllium, Dissolved	0.00013	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.0036	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Cobalt	0.00019	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00072	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Nickel	0.0013	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0019	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Thallium	0.000044	mg/L	Primary Result	JB	U	V	B	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0023	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Zinc	0.0024	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0042	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Selenium	0.00078	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.0012	mg/L	Primary Result	JB	U	V	B	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Silver	0.000029	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Tin	0.00046	mg/L	Primary Result	JB	U	V	B, F	25382A
SH-04	04/07/11	Primary Sample	EPA 6020	Vanadium	0.0023	mg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 7470A	Mercury	0.000046	mg/L	Primary Result	J	U	V	F	25382A
SH-04	04/07/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000047	mg/L	Primary Result	JB	U	V	B, F	25382A
SH-04	04/07/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.24	µg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 8260B	Vinyl chloride	0.4	µg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	3	µg/L	Primary Result	J	J	V	TR	25382A
SH-04	04/07/11	Primary Sample	EPA 9012	Cyanides	0.0058	mg/L	Primary Result	J	U	V	F	25382A
SH-04	04/07/11	Primary Sample	EPA 8315A	Formaldehyde	11	µg/L	Primary Result	J	J	V	TR	25382A
SH-07	04/12/11	Primary Sample	EPA 350.1	Ammonia-N	0.074	mg/L	Primary Result	J	U	V	F	25421A
SH-07	04/12/11	Primary Sample	EPA 6010B	Iron, Dissolved	0.052	mg/L	Primary Result	J	U	V	F	25421A
SH-07	04/12/11	Primary Sample	EPA 6010B	Potassium, Dissolved	0.57	mg/L	Primary Result	J	J	V	TR	25421A
SH-07	04/12/11	Primary Sample	EPA 300.0	Fluoride	0.48	mg/L	Primary Result	J	U	V	F	25421A
SH-07	04/12/11	Primary Sample	EPA 6010B	Iron	0.04	mg/L	Primary Result	J	U	V	F	25421A
SH-07	04/12/11	Primary Sample	EPA 6010B	Manganese	0.0015	mg/L	Primary Result	J	J	V	TR	25421A
SH-07	04/12/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.0026	mg/L	Primary Result	J	U	V	F	25421A
SH-07	04/12/11	Primary Sample	EPA 6010B	Potassium	0.67	mg/L	Primary Result	J	J	V	TR	25421A
SH-07	04/12/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.27	µg/L	Primary Result	J	J	V	TR	25421A
SH-07	04/12/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	Q	25421A
SH-07	04/12/11	Primary Sample	EPA 6010B	Zinc, Dissolved	0.005	mg/L	Primary Result	J	J	V	TR	25421A
SH-07	04/12/11	Primary Sample	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	µg/L	Primary Result	J	J	V	TR	25421A
SH-07	04/12/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	0.69	µg/L	Primary Result	J	J	V	TR	25421A
SH-09	04/11/11	Primary Sample	EPA 350.1	Ammonia-N	0.1	mg/L	Primary Result	J	U	V	F	25435A
SH-09	04/11/11	Primary Sample	EPA 6010B	Potassium	0.74	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6010B	Potassium, Dissolved	0.9	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Antimony	0.00014	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00019	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Arsenic	0.0005	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 524.2	1,2,3-Trichloropropane	0.002	µg/L	Primary Result	J	J	V	TR	25435A

TABLE B-3
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SANTA SUSANA FIELD LABORATORY
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
SH-09	04/11/11	Primary Sample	EPA 6010B	Manganese	0.0044	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6010B	Manganese, Dissolved	0.0012	mg/L	Primary Result	J	U	V	F	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00051	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000048	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Copper, Dissolved	0.0009	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Silver	0.000018	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000017	mg/L	Primary Result	J	U	V	F	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00057	mg/L	Primary Result	JB	U	V	B, F	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Vanadium	0.0013	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0013	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Cadmium	0.00005	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Cobalt	0.0003	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.0003	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Copper	0.00091	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Nickel	0.0013	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Thallium	0.000036	mg/L	Primary Result	JB	U	V	B	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000038	mg/L	Primary Result	JB	U	V	B	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Tin	0.00037	mg/L	Primary Result	JB	U	V	B, F	25435A
SH-09	04/11/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0034	mg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 8081A	Endrin aldehyde	0.018	µg/L	Primary Result	J	J	IV	TR, XIII	25667D
SH-09	04/11/11	Primary Sample	EPA 8151A	Dinoseb	0.48	µg/L	Primary Result	JB	J	IV	TR, IX	25667D
SH-09	04/11/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.35	µg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 8151A	2,4-Dichlorophenoxyacetic Acid (2,4-D)	0.82	µg/L	Primary Result	J	J	IV	TR, IX	25667D
SH-09	04/11/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.39	µg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.19	µg/L	Primary Result	J	J	V	TR	25435A
SH-09	04/11/11	Primary Sample	EPA 8290	dioxin	4.2	pg/L	Primary Result	J	J	V	TR	25382E
SH-09	04/11/11	Primary Sample	EPA 8290	Octachlorodibenzo-p-dioxin	100	pg/L	Primary Result	B	U	V	B	25382E
SH-11	04/06/11	Field Duplicate	EPA 8270C	bis(2-Ethylhexyl) phthalate	9.7	µg/L	Primary Result	J	U	IV	F	25689A
SH-11	04/06/11	Primary Sample	EPA 350.1	Ammonia-N	0.063	mg/L	Primary Result	JB	U	V	B, F	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Antimony	0.00016	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Field Duplicate	EPA 8270C	Di-n-octyl phthalate	9.7	µg/L	Primary Result	JB	U	IV	B, F	25689A
SH-11	04/06/11	Field Duplicate	EPA 8270C	Diethyl phthalate	0.39	µg/L	Primary Result	J	J	IV	TR	25689A
SH-11	04/06/11	Primary Sample	EPA 300.0	Nitrate-NO3	0.26	mg/L	Primary Result	J	U	V	F	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.00021	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Arsenic	0.00092	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.001	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Cadmium	0.00015	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00015	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.0007	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Copper	0.0019	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Cobalt	0.00081	mg/L	Primary Result	J	J	V	TR	25351A

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
SH-11	04/06/11	Primary Sample	EPA 6020	Silver	0.000032	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Silver, Dissolved	0.000031	mg/L	Primary Result	J	U	V	F	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Thallium	0.00003	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Vanadium	0.00089	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0008	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Zinc	0.0023	mg/L	Primary Result	JB	U	V	B	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000021	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Tin	0.00027	mg/L	Primary Result	J	U	V	F	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Tin, Dissolved	0.00033	mg/L	Primary Result	J	U	V	F	25351A
SH-11	04/06/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0035	mg/L	Primary Result	J	J	V	TR	25351A
SH-11	04/06/11	Primary Sample	EPA 7470A	Mercury	0.000036	mg/L	Primary Result	JB	U	V	B, F	25351A
SH-11	04/06/11	Primary Sample	EPA 7470A	Mercury, Dissolved	0.000036	mg/L	Primary Result	JB	U	V	B, F	25351A
SH-11	04/06/11	Primary Sample	EPA 8151A	2,4,5-T	0.97	µg/L	Primary Result	JB	U	V	B, S	25351A
SH-11	04/06/11	Primary Sample	EPA 8260B	Acetone	10	µg/L	Primary Result	JB	U	V	B, T	25351A
SH-11	04/06/11	Primary Sample	EPA 8260B	Styrene	0.17	µg/L	Primary Result	U	UJ	V	Q	25351A
SH-11	04/06/11	Primary Sample	EPA 8270C	Diethyl phthalate	0.46	µg/L	Primary Result	J	J	IV	TR	25689A
SH-11	04/06/11	Primary Sample	EPA 8270C	Methapyrilene	20	µg/L	Primary Result	U	UJ	IV	C	25689A
SH-11	04/06/11	Primary Sample	EPA 8270C	Methyl methanesulfonate	0.99	µg/L	Primary Result	U	UJ	IV	C	25689A
SH-11	04/06/11	Primary Sample	EPA 8270C	p-Phenylenediamine	4.9	µg/L	Primary Result	U	UJ	IV	C	25689A
SH-11	04/06/11	Primary Sample	EPA 9012	Cyanides	0.0036	mg/L	Primary Result	J	U	V	F	25351A
WS-04A	04/20/11	Primary Sample	EPA 350.1	Ammonia-N	0.079	mg/L	Primary Result	J	J	V	TR	25468B
WS-04A	04/20/11	Primary Sample	EPA 300.0	Fluoride	0.16	mg/L	Primary Result	J	J	V	TR	25468B
WS-04A	04/20/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	0.76	µg/L	Primary Result	J	J	V	TR	25468B
WS-04A	04/20/11	Primary Sample	EPA 8315A	Formaldehyde	12	µg/L	Primary Result	J	J	V	TR	25468B
WS-04A	04/20/11	Primary Sample	EPA 9040B	pH	6.92	pH Units	Primary Result	HTV	J	V	H	25468B
WS-04A	04/27/11	Primary Sample	EPA 8270C	Diethyl phthalate	9.6	µg/L	Primary Result	JB	U	V	B	25528B
RD-104	04/29/11	Primary Sample	EPA 6020	Silver	0.000016	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Thallium	0.000051	mg/L	Primary Result	JB	U	V	B	25528D
WS-09A	06/03/11	Primary Sample	EPA 300.0	Fluoride	0.2	mg/L	Primary Result	J	J	V	TR	25675A
WS-09A	06/03/11	Primary Sample	EPA 300.0	Nitrate-NO3	0.37	mg/L	Primary Result	J	J	V	TR	25675A
WS-09A	06/03/11	Primary Sample	EPA 8015B	Gasoline Range Organics (C8-C11)	0.078	mg/L	Primary Result	U	R	V	Q	25675A
WS-09A	06/03/11	Primary Sample	EPA 350.1	Ammonia-N	0.1	mg/L	Primary Result	JB	U	V	B	25675A
WS-09A	06/03/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.62	µg/L	Primary Result	J	J	V	TR	25675A
WS-09A	06/03/11	Primary Sample	EPA 8260B	Vinyl chloride	0.51	µg/L	Primary Result	J	J	V	TR	25675A
WS-09A	06/03/11	Primary Sample	EPA 8315	Formaldehyde	0.05	mg/L	Primary Result	J B HTV	UJ	V	H, B	25675B
PZ-146	04/29/11	Primary Sample	EPA 1625M	n-Nitrosodimethylamine	0.0065	µg/L	Primary Result	HTV	J	V	H	25528D
PZ-146	04/29/11	Primary Sample	EPA 6020	Chromium, Dissolved	0.00064	mg/L	Primary Result	J	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0032	mg/L	Primary Result	J	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	UHTV	UJ	V	H, Q	25528D
PZ-146	04/29/11	Primary Sample	EPA 7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H, Q	25528D
PZ-146	04/29/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0018	mg/L	Primary Result	J	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 8015B	Kerosene Range (C15-C20)	0.032	mg/L	Primary Result	J	J	V	TR	25528D

TABLE B-3
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-146	04/29/11	Primary Sample	EPA 8260B	2-Hexanone	16	µg/L	Primary Result	J	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 8260B	Carbon Disulfide	3	µg/L	Primary Result	U	UJ	V	E, L	25528D
PZ-146	04/29/11	Primary Sample	EPA 8260B	Methylene chloride	2.1	µg/L	Primary Result	U	UJ	V	L	25528D
PZ-146	04/29/11	Primary Sample	EPA 8260B	Trichloroethene	4.3	µg/L	Primary Result	JB	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 8260B	Vinyl acetate	6.3	µg/L	Primary Result	U	UJ	V	E	25528D
PZ-146	04/29/11	Primary Sample	EPA 8260B SIM	1,4-Dioxane	0.93	µg/L	Primary Result	J	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 8270C	bis(2-Ethylhexyl) phthalate	0.98	µg/L	Primary Result	J	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 8270C	Diethyl phthalate	9.8	µg/L	Primary Result	JB	U	V	B, F	25528D
PZ-146	04/29/11	Primary Sample	EPA 8270C	Phenol	2.7	µg/L	Primary Result	J	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	9.9	µg/L	Primary Result	JB	U	V	B, F	25528D
PZ-146	04/29/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	9.9	µg/L	Primary Result	JB	U	V	B, F	25528D
PZ-146	04/29/11	Primary Sample	EPA 8270C SIM	Fluoranthene	0.015	µg/L	Primary Result	J	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	9.9	µg/L	Primary Result	JB	U	V	B, F	25528D
PZ-146	04/29/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	0.58	µg/L	Primary Result	JB	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 8270C SIM	Naphthalene	0.0063	µg/L	Primary Result	J	J	V	TR	25528D
PZ-146	04/29/11	Primary Sample	EPA 8315A	Formaldehyde	9.2	µg/L	Primary Result	J	J	V	TR	25528D
PZ-147	04/28/11	Primary Sample	EPA 300.0	Fluoride	0.13	mg/L	Primary Result	J	J	V	TR	25528C
PZ-147	04/28/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0004	mg/L	Primary Result	J	J	V	TR	25528C
PZ-147	04/28/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000067	mg/L	Primary Result	J	J	V	TR	25528C
PZ-147	04/28/11	Primary Sample	EPA 6020	Manganese, Dissolved	0.00074	mg/L	Primary Result	J	U	V	F	25528C
PZ-147	04/28/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00093	mg/L	Primary Result	J	J	V	TR	25528C
PZ-147	04/28/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.00099	mg/L	Primary Result	J	J	V	TR	25528C
PZ-147	04/28/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0029	mg/L	Primary Result	J	J	V	TR	25528C
PZ-147	04/28/11	Primary Sample	EPA 7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25528C
PZ-147	04/28/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.000078	mg/L	Primary Result	J	J	V	TR	25528C
PZ-147	04/28/11	Primary Sample	EPA 6020	Copper, Dissolved	0.00083	mg/L	Primary Result	J	J	V	TR	25528C
PZ-147	04/28/11	Primary Sample	EPA 7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,1,1,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,1,2,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,2,3-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,2,3-Trichloropropane	0.33	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,2-Dibromoethane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,2-Dichlorobenzene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,3,5-Trimethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,3-Dichlorobenzene	0.13	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,4-Dichlorobenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	25528C

TABLE B-3
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Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,2,4-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,2,4-Trimethylbenzene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,2-Dibromo-3-chloropropane	0.47	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	1,2-Dichloropropane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	2-Hexanone	1.7	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Bromodichloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Bromoform	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Bromomethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Chloroethane	0.41	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Chloroform	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Chloromethane	0.3	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Methyl isobutyl ketone (MIBK)	0.98	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Bromobenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Bromochloromethane	0.1	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Chlorobenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	18	µg/L	Primary Result		J	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	cis-1,3-Dichloropropene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Cumene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Dichlorodifluoromethane	0.31	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Diisopropyl ether	0.74	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Methyl tert-butyl ether	0.25	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	p-Chlorotoluene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	p-Cymene	0.2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	tert-Amyl methyl ether	1.4	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	tert-Butyl alcohol	3.8	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	tert-Butyl ethyl ether	1.2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Hexachlorobutadiene	0.12	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Iodomethane	0.23	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	n-Butylbenzene	0.14	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	n-Propylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	o-Chlorotoluene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	sec-Butylbenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-147	04/28/11	Primary Sample	EPA 8260B	sec-Dichloropropane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Styrene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	tert-Butylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Tetrahydrofuran	2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	trans-1,3-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Trichloroethene	87	µg/L	Primary Result		J	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Xylenes, Total	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Vinyl acetate	0.94	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-147	04/28/11	Primary Sample	EPA 8270C	Diethyl phthalate	9.9	µg/L	Primary Result	JB	U	V	B, F	25528C
PZ-147	04/28/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	9.9	µg/L	Primary Result	JB	U	V	B, F	25528C
PZ-147	04/28/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	9.9	µg/L	Primary Result	JB	U	V	B, F	25528C
PZ-147	04/28/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	9.9	µg/L	Primary Result	J	U	V	F	25528C
PZ-147	04/28/11	Primary Sample	EPA 8270C SIM	Naphthalene	0.0057	µg/L	Primary Result	J	J	V	TR	25528C
PZ-147	04/28/11	Primary Sample	EPA 8270C SIM	Butyl benzyl phthalate	9.9	µg/L	Primary Result	J	U	V	F	25528C
PZ-147	04/28/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	9.9	µg/L	Primary Result	J	U	V	F	25528C
RD-104	04/29/11	Primary Sample	EPA 300.0	Fluoride	0.29	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	SM4500	Sulfide	0.012	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 350.1	Ammonia-N	0.093	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Antimony, Dissolved	0.0001	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Arsenic	0.0009	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00021	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Cadmium	0.000071	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00004	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Antimony	0.00019	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Chromium	0.00074	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Lead	0.00084	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.000021	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Vanadium	0.0022	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Zinc	0.0078	mg/L	Primary Result	J	J	V	TR	25528D
RD-104	04/29/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.003	mg/L	Primary Result	J	J	V	TR	25528D
PZ-148	04/28/11	Primary Sample	EPA 300.0	Fluoride	0.23	mg/L	Primary Result	J	J	V	TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 300.0	Nitrate-NO3	0.72	mg/L	Primary Result	J	J	V	TR	25528C
RD-104	04/29/11	Primary Sample	EPA 8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	E, L	25528D
RD-104	04/29/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	L	25528D
RD-104	04/29/11	Primary Sample	EPA 8260B	Vinyl acetate	0.94	µg/L	Primary Result	U	UJ	V	E	25528D
RD-104	04/29/11	Primary Sample	EPA 8270C	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B	25528D
RD-104	04/29/11	Primary Sample	EPA 9012	Cyanides	0.005	mg/L	Primary Result	JB	U	V	B	25528D

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-148	04/28/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.00071	mg/L	Primary Result	J	J	V	TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 6020	Thallium, Dissolved	0.00008	mg/L	Primary Result	J	J	V	TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0014	mg/L	Primary Result	J	J	V	TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.000049	mg/L	Primary Result	J	J	V	TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00011	mg/L	Primary Result	J	J	V	TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 6020	Nickel, Dissolved	0.00078	mg/L	Primary Result	J	J	V	TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 7196A	Hexavalent Chromium	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25528C
PZ-148	04/28/11	Primary Sample	EPA 7196A	Hexavalent Chromium, Dissolved	0.004	mg/L	Primary Result	UHTV	UJ	V	H	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Benzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Bromobenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Bromochloromethane	0.1	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Bromodichloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Bromoform	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Bromomethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Carbon Tetrachloride	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Chlorobenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Chloroethane	0.41	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Chloroform	0.49	µg/L	Primary Result	J	J	V	S, TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Chloromethane	0.3	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	cis-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	cis-1,3-Dichloropropene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Cumene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Dibromochloromethane	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,1,2-Trichloroethane	0.27	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloroethane	0.22	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloroethene	0.23	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,2,4-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,2,4-Trimethylbenzene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,2-Dibromo-3-chloropropane	0.47	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,2-Dichloropropane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	2-Hexanone	1.7	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Dichlorodifluoromethane	0.31	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,1,1,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,1,1-Trichloroethane	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,1,2,2-Tetrachloroethane	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,1-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,2,3-Trichlorobenzene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,2,3-Trichloropropane	0.33	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,2-Dibromoethane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,2-Dichlorobenzene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,2-Dichloroethane	0.13	µg/L	Primary Result	U	UJ	V	S	25528C

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,3,5-Trimethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,3-Dichlorobenzene	0.13	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	1,4-Dichlorobenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Methyl isobutyl ketone (MIBK)	0.98	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Acetone	1.9	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Iodomethane	0.23	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	m-Xylene & p-Xylene	0.34	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Methyl ethyl ketone	2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	n-Propylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	o-Chlorotoluene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	o-Xylene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Diisopropyl ether	0.74	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Ethylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Hexachlorobutadiene	0.12	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Methyl tert-butyl ether	0.25	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	n-Butylbenzene	0.14	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	p-Chlorotoluene	0.21	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	p-Cymene	0.2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	sec-Butylbenzene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	tert-Butyl alcohol	3.8	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	tert-Butyl ethyl ether	1.2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	tert-Butylbenzene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	trans-1,2-Dichloroethene	0.15	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Vinyl acetate	0.94	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Vinyl chloride	0.1	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Xylenes, Total	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	sec-Dichloropropane	0.18	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Styrene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	tert-Amyl methyl ether	1.4	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Tetrachloroethene	0.2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Tetrahydrofuran	2	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Toluene	0.17	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	trans-1,3-Dichloropropene	0.19	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Trichloroethene	0.16	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8260B	Trichlorofluoromethane	0.29	µg/L	Primary Result	U	UJ	V	S	25528C
PZ-148	04/28/11	Primary Sample	EPA 8270C	Diethyl phthalate	9.8	µg/L	Primary Result	JB	U	V	B, F	25528C
PZ-148	04/28/11	Primary Sample	EPA 8270C SIM	1-Methyl naphthalene	0.0055	µg/L	Primary Result	J	J	V	TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 8270C SIM	2-Methylnaphthalene	0.0084	µg/L	Primary Result	J	J	V	TR	25528C
PZ-148	04/28/11	Primary Sample	EPA 8270C SIM	Butyl benzyl phthalate	9.7	µg/L	Primary Result	J	U	V	F	25528C
PZ-148	04/28/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	9.7	µg/L	Primary Result	J	U	V	F	25528C
PZ-148	04/28/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	9.7	µg/L	Primary Result	JB	U	V	B, F	25528C

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report
PZ-148	04/28/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	9.7	µg/L	Primary Result	JB	U	V	B, F	25528C
PZ-148	04/28/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	9.7	µg/L	Primary Result	J	U	V	F	25528C
PZ-148	04/28/11	Primary Sample	EPA 8270C SIM	Naphthalene	0.01	µg/L	Primary Result	J	J	V	TR	25528C
PZ-152	04/29/11	Primary Sample	EPA 6020	Arsenic, Dissolved	0.0022	mg/L	Primary Result	J	J	V	TR	25528D
PZ-152	04/29/11	Primary Sample	EPA 6020	Vanadium, Dissolved	0.0026	mg/L	Primary Result	J	J	V	TR	25528D
PZ-152	04/29/11	Primary Sample	EPA 6020	Cadmium, Dissolved	0.00018	mg/L	Primary Result	J	J	V	TR	25528D
PZ-152	04/29/11	Primary Sample	EPA 6020	Cobalt, Dissolved	0.00015	mg/L	Primary Result	J	J	V	TR	25528D
PZ-152	04/29/11	Primary Sample	EPA 6020	Selenium, Dissolved	0.003	mg/L	Primary Result	J	J	V	TR	25528D
PZ-152	04/29/11	Primary Sample	EPA 6020	Zinc, Dissolved	0.0043	mg/L	Primary Result	J	J	V	TR	25528D
PZ-152	04/29/11	Primary Sample	EPA 8260B	Carbon Disulfide	0.45	µg/L	Primary Result	U	UJ	V	E, L	25528D
PZ-152	04/29/11	Primary Sample	EPA 8260B	Vinyl acetate	0.94	µg/L	Primary Result	U	UJ	V	E	25528D
PZ-152	04/29/11	Primary Sample	EPA 8260B	Methylene chloride	0.32	µg/L	Primary Result	U	UJ	V	L	25528D
PZ-152	04/29/11	Primary Sample	EPA 8260B	Trichloroethene	1	µg/L	Primary Result	JB	U	V	B, F, T	25528D
PZ-152	04/29/11	Primary Sample	EPA 8270C	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B	25528D
PZ-152	04/29/11	Primary Sample	EPA 8270C SIM	bis(2-Ethylhexyl) phthalate	10	µg/L	Primary Result	JB	U	V	B, F	25528D
PZ-152	04/29/11	Primary Sample	EPA 8270C SIM	Di-n-octyl phthalate	10	µg/L	Primary Result	JB	U	V	B, F	25528D
PZ-152	04/29/11	Primary Sample	EPA 8270C SIM	Diethyl phthalate	10	µg/L	Primary Result	JB	U	V	B, F	25528D
PZ-152	04/29/11	Primary Sample	EPA 8270C SIM	Di-n-butyl phthalate	10	µg/L	Primary Result	JB	U	V	B, F	25528D

TABLE B-3
SUMMARY OF SECOND QUARTER 2011 DATA QUALIFICATION
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Collection Date	Sample Type	Analytical Method	Parameter	Sample Result	Units	Result Type	Lab Qualifier Code	Validator Qualifier Code	Validation Level	Reason Code	Validation Report

REASON CODES:

B - Presumed contamination as indicated by the method blank results.
C - Calibration %RSD or %D was noncompliant.
E - LCS/LCSD RPD was high.
F - Presumed contamination as indicated by the field blank or equipment rinse blank results.
H - Holding time was exceeded.
L - LCS and/or LCSD %R was not within control limits.
Q - MS and/or MSD recovery was poor or RPD was high.
R - Calibration RRF was < 0.05.
S - Surrogate recovery was outside QC limits.
T - Presumed contamination as indicated by the trip blank results.
TR - Trace value; result was reported below the RL.
IX, XIII - Second column confirmation RPD exceeded limit.
XVI - Field duplicate RPD exceeded control limit

NOTES AND ABBREVIATIONS

%R - percent recovery
µg/L - micrograms per liter
mg/L - milligrams per liter
pg/L - picrograms per liter
pCi/L - picocuries per liter
NTU - Nephelometric Turbidity Units
B - Compound was found in the blank and in the sample.
HTV - holding time violation
LCS/LCSD - laboratory control spike/laboratory control spike duplicate
MS/MSD - matrix spike/matrix spike duplicate
QC - quality control
RL - reporting limit
RPD - relative percent difference
RRF - relative response factor
SIM - selective ion monitoring
J - Result is estimated
R - Result is rejected
U - Not detected above the method detection limit (MDL) or reporting limit (RL)
UJ - The result is not detected; however, the RL/MDL is estimated.

ATTACHMENT 1

DATA VALIDATION REPORTS

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

April 28, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed is the final validation report for the fraction listed below. This SDG was received on April 18, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25313:

SDG #	Fraction
280-14321-1/H1D080419	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV

LDC #25313 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr 2011)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Dioxins (8290)																															
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14321-1/ H1D080419	04/18/11	05/09/11	1	0																														
Total	T/PG			1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 6, 2011
LDC Report Date:	April 22, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14321-1/H1D080419

Sample Identification

SH-11_040611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
H1D110000-120B	4/11/11	OCDD	5.8 pg/L	All samples in SDG 280-14321-1/H1D080419

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14321-1/H1D080419	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14321-1/H1D080419

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14321-1/ H1D080419	SH-11_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14321-1/H1D080419

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14321-1/H1D080419

No Sample Data Qualified in this SDG

LDC #: 25313A21 **VALIDATION COMPLETENESS WORKSHEET** Date: 4/21/11

SDG #: 280-14321-1/H1D080419 Level V Page: 1 of 1

Laboratory: Test America Inc. Reviewer: JW

2nd Reviewer: CV

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-11_040611_01	11	H1D110000-120B	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 25313A21

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JM
2nd Reviewer: Q

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?
Y N N/A Was the method blank contaminated?

Blank extraction date: 4/11/11 **Blank analysis date:** 4/13/11 **Associated samples:** All (ND)

Conc. units: pg/L

Compound	Blank ID	Sample Identification								
	HBD110000-120B									
G	5.8									

Blank extraction date: _____ **Blank analysis date:** _____

Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 13, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on April 26, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25351:

SDG #	Fraction
280-14316/IUD0871/ 280-04167/A1D070454	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Pentachlorophenol, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazines
280-14316-2	Perchlorate
280-14402-1/ H1D090407	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004

- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV

LDC #25351 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		NDMA (1625)		PCP (8270C-LL)		Pest (8081A)		PCB (8082)		Metals (SW846)		Diss. Metals (SW846)		Herbs (8151A)		DRO (8015M)		EDB (504.1)		OPHS Pest (8141A)		Hexa chloro (8321A)		Formal-dehyde (8315)		Dioxin (8290)	
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14316/ IUD0871/ 280-04167/ A1D070454	04/26/11	05/17/11	8	0	8	0	4	0	5	0	6	0	1	0	1	0	1	0	1	0	1	0	1	0	2	0	1	0	1	0	1	0	6	0	-	-
A	280-14316/ IUD0871/ 280-04167/ A1D070454	04/26/11	05/17/11	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
C	280-14402-1/ H1D090407	04/26/11	05/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0
Total	A/PG			8	0	8	0	4	0	9	0	6	0	1	0	1	0	1	0	1	0	1	0	1	0	2	0	1	0	1	0	1	0	6	0	4	56

Client Select IV

LDC #25351 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		NH_3-N (350.1)		F NO_3 (300.0)		CLO_4 (314.0)		pH (9040B)		Cyanide (9012A)		S= (4500-S2-D)		CLO_4 (6860)															
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
A	280-14316/ IUD0871/ 280-04167/ A1D070454	04/26/11	05/17/11	5	0	5	0	5	0	6	0	6	0	6	0	6	0	1	0	1	0	-	-														
B	280-14316-2	04/26/11	05/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0														
Total	A/PG			5	0	5	0	5	0	6	0	6	0	6	0	6	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 3, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

SH-11_040611_01
TB_SH-11_040611
RD-48B_040611_01
RD-58A_040611_01
TB_RD-58A_040611
RD-58B_040611_01
RD-58C_040611_01
RD-48A_040611_01
SH-11_040611_01MS
SH-11_040611_01MSD
RD-58C_040611_01MS
RD-58C_040611_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-62047/5	4/13/11	Acetone	2.14	SH-11_040611_01 TB_SH-11_040611

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
SH-11_040611_01	Acetone	2.1 ug/L	10U ug/L
TB_SH-11_040611	Acetone	3.5 ug/L	10U ug/L

Sample TB_SH-11_040611 and TB_RD-58A_040611 were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_SH-11_040611	4/6/11	Acetone	3.5 ug/L	SH-11_040611_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SH-11_040611_01	Acetone	2.1 ug/L	10U ug/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No volatile contaminants were found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
SH-11_040611_01	1,2-Dichloroethane-d4 Toluene-d8	126 (80-120) 120 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
TB_SH-11_040611	1,2-Dichloroethane-d4 Toluene-d8 Dibromofluoromethane	133 (80-120) 121 (88-110) 123 (86-118)	Acrolein Acrylonitrile	J (all detects) J (all detects) J (all detects)	A
MB 280-61 699/6	1,2-Dichloroethane-d4	126 (80-120)	Acrolein Acrylonitrile	J (all detects) J (all detects)	P

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
SH-11_040611_01MS/MSD (SH-11_040611_01)	Styrene	-	65 (77-120)	-	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01 TB_SH-11_040611	Acrolein Acrylonitrile	J (all detects) J (all detects)	A	Surrogate spikes (%R) (S)
280-14316-1	SH-11_040611_01	Styrene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14316-1	SH-11_040611_01 TB_SH-11_040611 RD-48B_040611_01 RD-58A_040611_01 TB_RD-58A_040611 RD-58B_040611_01 RD-58C_040611_01 RD-48A_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_01	Acetone	10U ug/L	A	B
280-14316-1	TB_SH-11_040611	Acetone	10U ug/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_01	Acetone	10U ug/L	A	T

LDC #: 25351A1a
SDG #: 280-14316 -1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 4/29/11
Page: 1 of 1
Reviewer: JG
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 2 5* FB = FB_041411_09 (from 280-14655-1) EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
*ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

+ 1	SH-11_040611_01	11	RD-58C_040611_01MS	+ 21	MB 280-62047/5	31	
+ 2	TB_SH-11_040611	12	RD-58C_040611_01MSD	- 22	MB 280-62247/5	32	
- 3	RD-48B_040611_01	13		- 23	MB 280-61699/6	33	(FFFF, GGGG)
+ 4	RD-58A_040611_01	14		24		34	
- 5	TB_RD-58A_040611	15		25		35	
- 6	RD-58B_040611_01	16		26		36	
+ 7	RD-58C_040611_01	17		27		37	
- 8	RD-48A_040611_01	18		28		38	
9	SH-11_040611_01MS	19		29		39	
10	SH-11_040611_01MSD	20		30		40	

5x

8260 APIX - 1, 2
VOCs + IPA - 3 - 8

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 25357A26

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JVG
2nd Reviewer: CY

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?

Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?

Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 4/13/11

Conc. units: ug/L Associated Samples: 1, 2 Code: B

Compound	Blank ID	Sample Identification								
	MB 280-62047/5	1	2							
~~Methylene chloride~~ F	2.14	2.1/10U	3.5/10U							
Acetone										
CRQL										

Blank analysis date:
Conc. units: Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 25351 A1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: SVG
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: Associated Samples: 1 Code: T

Compound	Blank ID 2	Blank ID	Sample Identification							
Sampling Date	4/06/11		1							
F	3.5		2.1/10U							
CRQL										

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples:

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 25351 A1a

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: JVC
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

(Y) N N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1	DCE	126 (80-120)	J dets /A (S) (grab FFFF, GGGG only)
			TOL	120 (88-110)	
				( )	
		2	DCE	133 (80-120)	
			TOL	121 (88-110)	
			DFM	123 (86-118)	
				( )	
		MB 280-61 659/6	DCE	126 (80-120)	J dets /p (S)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC #: 25351A1C

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: MC
2nd Reviewer: Q

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	09/10	FF	( )	65 (77-120)	( )	5 1	J/UJ/A (Q)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 3, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

SH-11_040611_01
TB_SH-11_040611
RD-48B_040611_01
RD-58A_040611_01
TB_RD-58A_040611
RD-58B_040611_01
RD-58C_040611_01
RD-48A_040611_01
RD-58C_040611_01MS
RD-58C_040611_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_SH-11_040611 and TB_RD-58A_040611 were identified as trip blanks. No 1,4-dioxane was found in this blank with the following exception:

Trip Blank ID	Sampling Date	Compound	Concentration	Associated Samples
TB_RD-58A_040611	4/6/11	1,4-Dioxane	2.3 ug/L	RD-48B_040611_01 RD-58A_040611_01 RD-58B_040611_01 RD-58C_040611_01 RD-48A_040611_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
RD-48A_040611_01	1,4-Dioxane	2.5 ug/L	2.5U ug/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,4-dioxane was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-58C_040611_01MS/MSD (RD-58C_040611_01)	1,4-Dioxane	-	197 (25-141)	34 (≤20)	J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	RD-58C_040611_01	1,4-Dioxane	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)(RPD) (Q)
280-14316-1	SH-11_040611_01 FB_SH-11_040611_19 TB_SH-11_040611 RD-48B_040611_01 RD-58A_040611_01 TB_RD-58A_040611 RD-58B_040611_01 RD-58C_040611_01 RD-48A_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14316-1	RD-48A_040611_01	1,4-Dioxane	2.5U ug/L	A	T

LDC #: 25351A1b **VALIDATION COMPLETENESS WORKSHEET** Date: 4/29/11
SDG #: 280-14316-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: MG
2nd Reviewer: Q

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 3, 6 * FB = FB_041411_19 (from 280-14655-1) EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-11_040611_01	11	RD-58C_040611_01MSD	21	MB 280-61766/1	31	
2	~~EB_SH-11_040611_19~~	12		22		32	
3	TB_SH-11_040611	13		23		33	
4	RD-48B_040611_01	14		24		34	
5	RD-58A_040611_01	15		25		35	
6	TB_RD-58A_040611	16		26		36	
7	RD-58B_040611_01	17		27		37	
8	RD-58C_040611_01	18		28		38	
9	RD-48A_040611_01	19		29		39	
10	RD-58C_040611_01MS	20		30		40	

LDC #: 25 351 A1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JM6
2nd Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Y N /N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 4-5, 7-9 Code: T

Compound	Blank ID 6	Blank ID	Sample Identification							
Sampling Date	4/06/11		9							
1,4-Dioxane	2.3		2.5/U							
CRQL										

Blank units: _____ **Associated sample units:** _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples:

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 25351A1b

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MG
2nd Reviewer: [signature]

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	10 /1	1,4-Dioxane	( )	197 (25-141)	34 (20)	8	J dets /A (Q)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 6, 2011
LDC Report Date:	May 3, 2011
Matrix:	Water
Parameters:	1,2,3-Trichloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14316-1/IUD0871

Sample Identification

SH-11_040611_01
TB_SH-11_040611
RD-48B_040611_01
RD-48A_040611_01
SH-11_040611_01DUP

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Sample TB_SH-11_040611 was identified as a trip blank. No 1,2,3-trichloropropane was found in this blank.

Sample EB_SH-04_040711 (from SDG 280-14379-1/IUD0891) was identified as an equipment blank. No 1,2,3-trichloropropane was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1/IUD0871	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14316-1/IUD0871

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1/IUD0871	SH-11_040611_01 TB_SH-11_040611 RD-48B_040611_01 RD-48A_040611_01 SH-11_040611_01DUP	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14316-1/IUD0871

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14316-1/IUD0871

No Sample Data Qualified in this SDG

LDC #: 25351A1c

VALIDATION COMPLETENESS WORKSHEET

SDG #: 280-14316/IUD0871

Level V

Laboratory: Test America, Inc.

Date: 4/29/11

Page: 1 of 1

Reviewer: MC

2nd Reviewer: CP

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates /Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 2 FB = FB_041411_19 (from 280-14655-1) EB_SH-04_040711 (280-14379-1/1400891)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	SH-11_040611_01	11	11 D1463-Blk1	21		31	
2	TB_SH-11_040611	12		22		32	
3	RD-48B_040611_01	13		23		33	
4	RD-48A_040611_01	14		24		34	
5	SH-11_040611_01DUP	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 12, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level IV & V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

EB-SH-11_040611**
SH-11_040611_01**
SH-11_040611_36**
FB_SH-11_040611_19**
RD-48B_040611_01
RD-58A_040611_01
RD-58B_040611_01
RD-58C_040611_01
RD-48A_040611_01
RD-58C_040611_01MS
RD-58C_040611_01MSD

**Indicates sample underwent Level IV review

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
3/21/11	Methyl methanesulfonate 1,4-Phenylenediamine Methapyrilene	186.1 55.1 28.1	SH-11_040611_01 MB62102/1-A	J (all detects) UJ (all non-detects)	A

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
280-61375/1-A	4/8/11	Di-n-octylphthalate	1.75 ug/L	EB-SH-11_040611** SH-11_040611_36** FB_SH-11_040611_19** RD-48B_040611_01 RD-58A_040611_01 RD-58B_040611_01 RD-58C_040611_01 RD-48A_040611_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
SH-11_040611_36	Di-n-octylphthalate	1.8 ug/L	9.7U ug/L
FB_SH-11_040611_19	Di-n-octylphthalate	1.8 ug/L	9.6U ug/L
RD-48B_040611_01	Di-n-octylphthalate	1.9 ug/L	11U ug/L
RD-58B_040611_01	Di-n-octylphthalate	1.7 ug/L	9.7U ug/L
RD-58C_040611_01	Di-n-octylphthalate	1.7 ug/L	9.8U ug/L

Samples EB-SH-11_040611 and EB_SH-04_040711 (from SDG 280-14379-1) were identified as equipment blanks. No semivolatile contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Compound	Concentration	Associated Samples
EB-SH-11_040611	4/6/11	Bis(2-ethylhexyl)phthalate	0.77 ug/L	SH-11_040611_01 SH-11_040611_36

Samples FB_SH-11_040611_19 and FB_041411_19 (from SDG 280-14655-1) were identified as field blanks. No semivolatile contaminants were found in these blanks with the following exception:

Field Blank ID	Sampling Date	Compound	Concentration	Associated Samples
FB_SH-11_040611_19	4/6/11	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.64 ug/L 1.8 ug/L	SH-11_040611_01 SH-11_040611_36

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SH-11_040611_36	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	0.92 ug/L 1.8 ug/L	9.7U ug/L 9.7U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits for samples on which a Level IV review was performed. Internal standards were not evaluated for the samples reviewed by Level V criteria.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a Level IV review was performed.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level V criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable for samples on which a Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level V criteria.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-11_040611_01 and SH-11_040611_36 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-11_040611_01	SH-11_040611_36			
Bis(2-ethylhexyl)phthalate	9.9U	0.92	166 (≤35)	NQ	-
Diethyl phthalate	0.46	0.39	16 (≤35)	-	-
Di-n-octyl phthalate	9.9U	1.8	138 (≤35)	NQ	-

Samples SH-11_040611_01** and SH-11_040611_03 (from SDG IUD0921) were identified as split samples. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	SH-11_040611_01	SH-11_040611_03			
Diethyl phthalate	0.46	9.6U	182 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01	Methyl methanesulfonate 1,4-Phenylenediamine Methapyrilene	J (all detects) UJ (all non-detects)	A	Continuing calibration (ICV %D) (C)
280-14316-1	EB-SH-11_040611 SH-11_040611_01 SH-11_040611_36 FB_SH-11_040611_19 RD-48B_040611_01 RD-58A_040611_01 RD-58B_040611_01 RD-58C_040611_01 RD-48A_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_36	Di-n-octylphthalate	9.7U ug/L	A	B
280-14316-1	FB_SH-11_040611_19	Di-n-octylphthalate	9.6U ug/L	A	B
280-14316-1	RD-48B_040611_01	Di-n-octylphthalate	11U ug/L	A	B
280-14316-1	RD-58B_040611_01	Di-n-octylphthalate	9.7U ug/L	A	B
280-14316-1	RD-58C_040611_01	Di-n-octylphthalate	9.8U ug/L	A	B

Boeing SSFL GW 1st Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_36	Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	9.7U ug/L 9.7U ug/L	A	F

LDC #: 25351A2a
SDG #: 28014316 -1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level IV / V

Date: 4/29/11
Page: 1 of 1
Reviewer: JV
2nd Reviewer: CL

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	2 RSD ≤ 30%
IV.	Continuing calibration/ICV	SW	CCV/ICV ≤ 25%
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates / Split	SW	D = 2, 3 S = 2 + SH-11_040611_03 (from 1UD0921)
XVII.	Field blanks	SW	EB = 1 FB = 4 *FB = FB-041411-19 (from 280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
* ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank
*EB-SH-04-040711 (280-14379-1)

Validated Samples:
** Level IV Water

1 1	EB-SH-11_040611 **	11 1	MB 280-61375/1-A	21		31	
2 2	SH-11_040611_01 ** D	12	MB280-62102/1-A	22		32	
3 1	SH-11_040611_36 ** D	13		23		33	
4 1	FB_SH-11_040611_19 **	14		24		34	
5 1	RD-48B_040611_01	15		25		35	
6 1	RD-58A_040611_01	16		26		36	
7 1	RD-58B_040611_01	17		27		37	
8 1	RD-58C_040611_01	18		28		38	
9 1	RD-48A_040611_01	19		29		39	
10	RD-58C_040611_01 MS	20		30		40	

RD-58C_040611_01 MSD Phthalates = 1, 3, 4
App IX = 2
Phthalates + NB = 5, 6, 7, 8, 9

LDC #: 25351A2a

VALIDATION FINDINGS CHECKLIST

Reviewer: JVR
2nd Reviewer:

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓	W		
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓		W	
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?				✓
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: X357A2a

VALIDATION FINDINGS CHECKLIST

Reviewer: DVG
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?	✓		✓	
Were the performance evaluation (PE) samples within the acceptance limits?				✓
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓	✓		
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT. Methyl methanesulfonate
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU 1,4-Phenylenediamine
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV. Methapyrilene
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

Notes:* = System performance check compound (SPCC) for RRF; ** = Calibration check compound (CCC) for %RSD.

LDC #: 25351 A2g

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours of sample analysis for each instrument?

Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?

Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	3/21/11	B3885	TTT	186.1		2, MB62102/1-A	J/UJ/A (c)
		(ICV)	UUU	55.1			
			VVV	28.1			

CONCAL.2S

LDC #: 25351 A2q

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: DVG
2nd Reviewer: [signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 4/08/11 **Blank analysis date:** 4/12/11
Conc. units: ug/L Associated Samples: 1 3 – 9 Code : B

Compound	Blank ID	Sample Identification							
MB	280-61375/1-A		3	4	5	7	8		
FFT	1.75		1.8/9.7U	1.8/9.6U	1.9/11U	1.7/9.7U	1.7/9.8U		

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 25351A2a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

(Y) N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 4/06/11
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 2, 3 Code: F

Compound	Blank ID (EB)	FB	Sample Identification							
	1	~~4~~	3							
EEE	0.77	0.64	0.92/9.7U							
FFF		1.8	1.8/↓							

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC#:25351A2a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer:

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent only)
	2	3		
Bis(2-ethylhexyl) phthalate	9.9U	0.92	166	NQ(<5XRL)
Diethyl phthalate	0.46	0.39	16	
Di-n-octyl phthalate	9.9U	1.8	138	NQ(<5XRL)

V:\FIELD DUPLICATES\25351A2a.wpd

LDC#:25351A2a

VALIDATION FINDINGS WORKSHEET
Field Split

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC MS SVOA (EPA SW 846 Method 8270C)

Y N NA Were field split pairs identified in this SDG?
Y N NA Were target analytes detected in the field split pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications (Parent only)
	SH-11_040611_01	SH-11_040611_03		
Diethyl phthalate	0.46	9.6U	182	NQ (<5RL)

V:\FIELD DUPLICATES\25351A2as.wpd

LDC #: 25351 A2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/13/2011	Phenol (IS1)	1.8636	1.8636	1.7761	1.7761	6.8	6.84
	MSS B		Naphthalene (IS2)	1.0366	1.0366	1.0034	1.0034	9.3	9.33
			Diethyl phthalate (IS3)	1.1931	1.1931	1.1380	1.1380	7.2	7.16
			Hexachlorobenzene (IS4)	0.1982	0.1982	0.1928	0.1928	5.2	5.15
			Bis(2-ethex) phthalate (IS5)	0.7552	0.7552	0.7022	0.7022	9.0	9.02
			Benzo(a)pyrene (IS6)	1.0751	1.0751	1.0197	1.0197	4.6	4.55

Conc IS/Cpd	Area cpd	Area IS
40/50	498522	214003
40/50	1106785	854165
40/50	725986	486795
40/50	197808	798317
40/50	749588	794008
40/50	1001972	745575

Conc	Phenol	Naphthalene	Diethyl phthal	Hexachlorob	Bis(2-ethex) ph	Benzo(a)py
4.00		1.1055	1.2204		0.5672	0.9988
10.00	1.9124	1.1119	1.1932	0.2058	0.6623	1.0114
20.00	1.8713	1.0567	1.2083	0.1999	0.7036	1.0819
50.00	1.8636	1.0366	1.1931	0.1982	0.7552	1.0751
80.00	1.8201	1.0134	1.1551	0.1940	0.7592	1.0492
120.00	1.7131	0.9441	1.0782	0.1906	0.7423	1.0081
160.00	1.6617	0.9013	1.0432	0.1842	0.7261	0.9884
200.00	1.5908	0.8579	1.0123	0.1766	0.7016	0.9445
X =	1.7761	1.0034	1.1380	0.1928	0.7022	1.0197
S =	0.1215	0.0936	0.0815	0.0099	0.0633	0.0464

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25351 A24

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/28/2011	Diethyl phthalate (IS3)	1.1810	1.1810	1.1207	1.1207	5.4	5.41
	MSS K		Di-n-butyl phthalate (IS4)	1.0807	1.0807	1.0077	1.0077	5.5	5.46
			Bis(2-eh)phthalate (IS5)	0.5619	0.5619	0.5105	0.5106	9.9	9.90

Conc IS/Cpd	Area cpd	Area IS
40/50	754512	511107
40/50	1287253	952907
40/50	836491	1191041

Conc	Diethyl phthalate	D-n-butyl phth	Bis(2-eh) phth
4.00	1.1785	0.9263	0.4041
10.00	1.1855	1.0515	0.4850
20.00	1.1088	1.0266	0.4914
50.00	1.1810	1.0807	0.5619
80.00	1.1297	1.0462	0.5494
120.00	1.1026	1.0142	0.5397
160.00	1.0613	0.9736	0.5293
200.00	1.0183	0.9423	0.5236
X =	1.1207	1.0077	0.5106
S =	0.0606	0.0550	0.0505

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #_____

VALIDATION FINDINGS WORSHEET
Continuing Calibration Results Verification

Reviewer: JVG
2nd Reviewer: _____

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	B4333	04/18/11	Phenol (IS1)	1.7761	1.7681	1.7681	0.5	0.5
			Naphthalene (IS2)	1.0034	0.9981	0.9981	0.5	0.5
			Diethyl phthalate (IS3)	1.1380	1.1659	1.1659	2.5	2.5
			Hexachlorobenzene (IS4)	0.1928	0.1994	0.1994	3.4	3.4
			Bis(2-ethex) phthalate (IS5)	0.7022	0.7567	0.7567	7.8	7.8
			Benzo(a)pyrene (IS6)	1.0197	1.0450	1.0450	2.5	2.5

Compound (IS)	Cis/Cx	Ax	Ais
Phenol (IS1)	40/80	751006	212371
Naphthalene (IS2)	40/80	1671425	837287
Diethyl phthalate (IS3)	40/80	1103411	473210
Hexachlorobenzene (IS4)	40/80	315206	790340
Bis(2-ethex) phthalate (IS5)	40/80	1173604	775443
Benzo(a)pyrene (IS6)	40/80	1584348	758083

METHOD: GC/MS SVOA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Average RRF (Initial RRF)	Reported (CC RRF)	Recalculated (CC RRF)	Reported %D	Recalculated %D
1	K9895	04/12/11	Diethyl phthalate (IS3)	1.1207	1.1195	1.1195	0.1	0.1
			Di-n-butyl phthalate (IS4)	1.0077	1.0537	1.0537	4.6	4.6
			Bis(2-eh)phthalate (IS5)	0.5105	0.5759	0.5759	12.8	12.8

CCV1

Compound (IS)	Cis/Cx	Ax	Ais
Diethyl phthalate (IS3)	40/80	1337393	597343
Di-n-butyl phthalate (IS4)	40/80	2228725	1057562
Bis(2-eh)phthalate (IS5)	40/80	1462686	1269811

LDC #: 25351A2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	89.73	90	90	0
2-Fluorobiphenyl		87.68	88	88	
Terphenyl-d14		87.96	88	88	
Phenol-d5	150	108.84	73	73	
2-Fluorophenol		100.59	67	67	
2,4,6-Tribromophenol		120.80	81	81	
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 25 73 I A2a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVC
2nd Reviewer: 9

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS/D 280-62102/2,3-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	80.0	80.0	63.5	66.5	79	79	83	83	5	5
N-Nitroso-di-n-propylamine			63.6	65.8	79	79	82	82	3	3
4-Chloro-3-methylphenol			70.9	73.2	89	89	91	91	3	3
Acenaphthene			66.1	69.2	83	83	86	86	5	5
Pentachlorophenol			71.6	74.8	90	90	94	94	4	4
Pyrene										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 25351A2A

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_t = Volume of the concentrated extract in microliters (ul)

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #7, ~~DEE~~ LL

Conc. = $\frac{(6128)(40)(1\ ml)(1000)(\quad)}{(462056)(1.1380)(1014\ ml)(\quad)(\quad)}$

= 0.0597

≈ 0.46 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 3, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

SH-11_040611_01
RD-48B_040611_01
RD-58A_040611_01
RD-58B_040611_01
RD-58C_040611_01
RD-48A_040611_01
RD-58C_040611_01MS
RD-58C_040611_01MSD

Introduction

This data review covers 8 water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625 for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-nitrosodimethylamine was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No N-nitrosodimethylamine was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No N-nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01 RD-48B_040611_01 RD-58A_040611_01 RD-58B_040611_01 RD-58C_040611_01 RD-48A_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A2b

SDG #: 280-14316

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 4/29/11

Page: 1 of 1

Reviewer: JW

2nd Reviewer: Q

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 from 280-14655-1 EB_SH04_040711(280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-11_040611_01	11	MB 280-61389/1-A	21		31	
2	RD-48B_040611_01	12		22		32	
3	RD-58A_040611_01	13		23		33	
4	RD-58B_040611_01	14		24		34	
5	RD-58C_040611_01	15		25		35	
6	RD-48A_040611_01	16		26		36	
7	RD-58C_040611_01MS	17		27		37	
8	RD-58C_040611_01MSD	18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 6, 2011
LDC Report Date:	May 3, 2011
Matrix:	Water
Parameters:	Pentachlorophenol
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14316-1

Sample Identification

SH-11_040611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No pentachlorophenol was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No pentachlorophenol was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Pentachlorophenol - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A2c

SDG #: 280-14316 -1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 4/29/11

Page: 1 of 1

Reviewer: M

2nd Reviewer: O

METHOD: GC/MS ~~Semivolatiles~~ Pentachlorophenol (EPA SW846 Method 8270C~~-LL~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (from 280-14655-19) EB-SH-04-040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-11_040611_01	11		21		31	
2	MB 280-61637/1-A	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 6, 2011
LDC Report Date:	May 3, 2011
Matrix:	Water
Parameters:	Chlorinated Pesticides
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14316-1

Sample Identification

SH-11_040611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No chlorinated pesticide contaminants were found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No chlorinated pesticide contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A3a
SDG #: 280-14316-1
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~IV~~ V

Date: 4/29/11
Page: 1 of 1
Reviewer: DVG
2nd Reviewer: [signature]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	~~A~~	
VI.	Surrogate spikes	~~A~~	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	FB = FB_041411_19 (from 280-14655-1) EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	SH-11_040611_01	11		21		31	
2	MB 280-61622/1-A	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 6, 2011
LDC Report Date:	May 3, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14316-1

Sample Identification

SH-11_040611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No polychlorinated biphenyls were found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No polychlorinated biphenyls were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A3b

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 4/29/11

SDG #: 280-14316

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: JVG

2nd Reviewer: d

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS 1b
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	FB = FB_041411_19 (from 280-14655-1) EB_SH04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-11_040611_01	11		21		31	
2	MB 280-61622/1-A	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 12, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

SH-11_040611_01
SH-11_040611_01F
SH-11_040611_01MS
SH-11_040611_01MSD
SH-11_040611_01FMS
SH-11_040611_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6020 and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Mercury Zinc	0.0000330 mg/L 0.00352 mg/L	All total metal samples in SDG 280-14316-1
PB (prep blank)	Mercury Selenium	0.0000340 mg/L 0.00118 mg/L	All dissolved metal samples in SDG 280-14316-1

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-11_040611_01	Mercury Zinc	0.000036 mg/L 0.0023 mg/L	0.000036U mg/L 0.0023U mg/L
SH-11_040611_01F	Mercury	0.000036 mg/L	0.000036U mg/L

Samples EB_SH-04-04_040711 and EB_SH-04_040711F (both from SDG 280-14379-1) were identified as equipment blanks. No metal contaminants were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04-04_040711	4/7/11	Tin Mercury	0.00028 mg/L 0.000037 mg/L	SH-11_040611_01
EB_SH-04_040711F	4/7/11	Silver Tin Mercury	0.000018 mg/L 0.00030 mg/L 0.000034 mg/L	SH-11_040611_01F

Samples FB_041411_19 and FB_041411_19F (both from SDG 280-14655-1) were identified as field blank. No metal contaminants were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	Iron	0.030 mg/L	SH-11_040611_01
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	SH-11_040611_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-11_040611_01	Tin Mercury	0.00027 mg/L 0.000036 mg/L	0.00027U mg/L 0.000036U mg/L
SH-11_040611_01F	Silver Tin Mercury	0.000031 mg/L 0.00033 mg/L 0.000036 mg/L	0.000031U mg/L 0.00033U mg/L 0.000036U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14316-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01 SH-11_040611_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_01	Mercury Zinc	0.000036U mg/L 0.0023U mg/L	A	B
280-14316-1	SH-11_040611_01F	Mercury	0.000036U mg/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_01	Tin Mercury	0.00027U mg/L 0.000036U mg/L	A	F
280-14316-1	SH-11_040611_01F	Silver Tin Mercury	0.000031U mg/L 0.00033U mg/L 0.000036U mg/L	A	F

LDC #: 25351A4

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 4-28-11

SDG #: 280-14316-1

Page: 1 of 1

Laboratory: Test America, Inc.

Reviewer: MG

2nd Reviewer:

METHOD: Metals (EPA SW 846 Method ~~6010B~~/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-6-11
II.	ICP/MS Tune	N	not reviewed
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	not reviewed
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB= EB_SH-04_040711 EB= EB-SH-04_040711F } SDG: 280-14379-1

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

FB= FB_041411_19
FB= FB_041411_19F } SDG: 280-14655-1

Validated Samples:

All water

1 1	SH-11_040611_01	11		21		31	
2	SH-11_040611_01F	12		22		32	
3 1	SH-11_040611_01MS ~~RD-58C_040611_01MS~~	13		23		33	
4 1	SH-11_040611_01MSD ~~RD-58C_040611_01MSD~~	14		24		34	
5	SH-11_040611_01MSFMS ~~RD-58C_040611_01MSF~~	15		25		35	
6	SH-11_040611_01MSDFMSD ~~RD-58C_040611_01MSDF~~	16		26		36	
7 1	PBW1	17		27		37	
8 2	PBW2	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

LDC #: 25351A4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer: ✓

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1, 2	W	Al, (Sb), As, Ba, Be, (Cd), Ca, (Cr), Co, (Cu), Fe, (Pb), Mg, Mn, (Hg), (Ni), K, (Se), (Ag), Na, (Tl), V, (Zn), Mo, B, Si, CN, (Sn)
QC 3, 4	↓	Al, (Sb), As, Ba, Be, (Cd), Ca, (Cr), Co, (Cu), Fe, (Pb), Mg, Mn, (Hg), (Ni), K, (Se), (Ag), Na, (Tl), V, (Zn), Mo, B, Si, CN, (Sn)
↓ 5, 6	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, (Hg), Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, ____
ICP-MS	W	Al, (Sb), As, Ba, Be, (Cd), Ca, (Cr), Co, (Cu), Fe, (Pb), Mg, Mn, Hg, (Ni), K, (Se), (Ag), Na, (Tl), V, (Zn), Mo, B, Si, CN, (Sn)
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN

Comments: (Mercury by CVAA if performed)

LDC #: 25351A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: MG
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all total Qual: U (B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1									
Hg		0.0000330		0.000165	0.000036									
Zn		0.00352		0.0176	0.0023									

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all dissolved Qual: U (B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	2									
Hg		0.0000340		0.00017	0.000036									
Se		0.00118		0.0059										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 25351A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/7/11 Soil factor applied NA Qual: U (F)
Field blank type: (circle one) Field Blank / Rinsate / (Other) EB Associated Samples: 1

Analyte	Blank ID	Sample Identification										
	EB_SH-04_040711	Action Level	1									
Sn	0.00028	0.0014	0.00027									
Hg	0.000037	0.000185	0.000036									

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/7/11 Soil factor applied NA Qual: U (F)
Field blank type: (circle one) Field Blank / Rinsate / (Other:) EB Associated Samples: 2

Analyte	Blank ID	Sample Identification										
	EB_SH-04_040711F	Action Level	2									
Ag	0.000018	0.00009	0.000031									
Sn	0.00030	0.0015	0.00033									
Hg	0.000034	0.00017	0.000036									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25351A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: _____

METHOD: Trace Metals (EPA SW846 6010B/7000)

(Y) N N/A Were field blanks identified in this SDG?

(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 4/14/11 Soil factor applied NA

Field blank type: (circle one) (Field Blank) / Rinsate / Other: _____ Associated Samples: 1 (Not analyzed for Fe)

Analyte	Blank ID	Sample Identification										
	FB_041411_19	Action Level	No Qual's.									
Fe	0.030	0.15										

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 4/14/11 Soil factor applied NA

Field blank type: (circle one) (Field Blank) / Rinsate / Other: _____ Associated Samples: 2 (Not analyzed for Fe, Mn, Na) Qual: U (F)

Analyte	Blank ID	Sample Identification										
	FB_041411_19F	Action Level	2									
Fe	0.082	0.41										
Mn	0.0012	0.006										
Na	0.29	1.45										
Sn	0.00017	0.00085	0.00033									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 5, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

SH-11_040611_01

Introduction

This data review covers one water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks with the following exception:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-61239/1-A	4/7/11	2,4,5-T	0.410 ug/L	SH-11_040611_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SH-11_040611_01	2,4,5-T	0.43 ug/L	0.97U ug/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
SH-11_040611_01	Primary	Dichlorophenyl acetic acid	138 (39-135)	All TCL compounds	J (all detects)	P
MB 280-61239/1-A	Secondary	Dichlorophenyl acetic acid	151 (39-135)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-14316-1	SH-11_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_01	2,4,5-T	0.97U ug/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A5

SDG #: 280-14316

Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~IV~~ ✓

Date: 4/29/11

Page: 1 of 1

Reviewer: NV

2nd Reviewer: [signature]

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	SW	
IVa.	Surrogate recovery	SW	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB_SH04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

+ 1	SH-11_040611_01	11		21		31	
+ 2	MB 280-61239/1-A	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: 2,4,5-T, 2,4-D, Dinoseb, 2,4,5-TP

LDC #: 25351 A5

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: VV
2nd Reviewer: [signature]

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level IV/D Only

Y N N/A (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 4/07/11 **Blank analysis date:** 4/19/11 **Associated samples:** All Code: B

Conc. units: ug/L

Compound	Blank ID	Sample Identification						
MB	280-61239/1-A	1						
2,4,5-T	0.410	0.43/0.97U						

Blank extraction date: _____ **Blank analysis date:** _____ **Associated samples:** _____

Conc. units: _____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 25951 A5

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JDV6
2nd Reviewer:

METHOD: ✓ **GC** __ **HPLC**

Are surrogates required by the method? Yes ✓ or No ____.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were surrogates spiked into all samples and blanks?

Y (N) N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	1	Primary	Q	138 (39-135)	J dets / p (S)
				( )	
				( )	
	MB 280-61239/1-A	Secondary	↓	151 ( )	↓ ↓
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	1-Chlorooctadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-DCPAA
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 3, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

SH-11_040611_01
RD-48B_040611_01
RD-58A_040611_01
RD-58B_040611_01
RD-58C_040611_01
RD-48A_040611_01
SH-11_040611_01MS
SH-11_040611_01MSD
SH-11_040611_01DUP
RD-58C_040611_01MS
RD-58C_040611_01MSD
RD-58C_040611_01DUP

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 350.1 for Ammonia as Nitrogen, EPA Method 300.0 for Fluoride and Nitrate, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, EPA SW 846 Method 9012A for Total Cyanide, and Standard Method 4500-S2-D for Total Sulfide.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
RD-58A_040611_01	pH	49.5 hours	48 hours	J (all detects) UJ (all non-detects)	P
RD-58C_040611_01	pH	49 hours	48 hours	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Ammonia as N	0.0566 mg/L	All samples in SDG 280-14316-1

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-11_040611_01	Ammonia as N	0.063 mg/L	0.063U mg/L
RD-48B_040611_01	Ammonia as N	0.21 mg/L	0.21U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
RD-58B_040611_01	Ammonia as N	0.083 mg/L	0.083U mg/L
RD-58C_040611_01	Ammonia as N	0.14 mg/L	0.14U mg/L
RD-48A_040611_01	Ammonia as N	0.26 mg/L	0.26U mg/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Fluoride Nitrate Ammonia as N Cyanide pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 0.0020 mg/L 5.83 pH units	SH-11_040611_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/7/11	pH	5.81 pH units	SH-11_040611_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-11_040611_01	Nitrate Ammonia as N Cyanide	0.26 mg/L 0.063 mg/L 0.0036 mg/L	0.26U mg/L 0.063U mg/L 0.0036U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14316-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14316-1	RD-58A_040611_01 RD-58C_040611_01	pH	J (all detects) UJ (all non-detects)	P	Technical holding times (H)
280-14316-1	SH-11_040611_01 RD-48B_040611_01 RD-58A_040611_01 RD-58B_040611_01 RD-58C_040611_01 RD-48A_040611_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_01	Ammonia as N	0.063U mg/L	A	B
280-14316-1	RD-48B_040611_01	Ammonia as N	0.21U mg/L	A	B
280-14316-1	RD-58B_040611_01	Ammonia as N	0.083U mg/L	A	B
280-14316-1	RD-58C_040611_01	Ammonia as N	0.14U mg/L	A	B
280-14316-1	RD-48A_040611_01	Ammonia as N	0.26U mg/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14316-1	SH-11_040611_01	Nitrate Ammonia as N Cyanide	0.26U mg/L 0.063U mg/L 0.0036U mg/L	A	F

LDC #: 25351A6
SDG #: 280-14316-1 MG
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 4-29-11
Page: 1 of 1
Reviewer: MG
2nd Reviewer: V

METHOD: (Analyte) Ammonia-N (EPA Method 350.2), Fluoride, Nitrate-N (EPA Method 300.0), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Total Cyanide (SM9012A), Total Sulfide (SM4500-S2-D)
The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets. EPA SW 846 Method 9012A

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 4-6-11
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	SW	EB = EB_SH-04_040711 (SDG: 280-14379-1) FB = FB_041411-19 (SDG: 280-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: all water MG

1	SH-11_040611_01	11	~~RD-58B_040611_01~~	21		31	
2	RD-48B_040611_01	12	~~RD-58C_040611_01~~	22		32	
3	RD-58A_040611_01	13	~~RD-48A_040611_01~~	23		33	
4	RD-58B_040611_01	14	~~SH-11_040611_01MS~~	24		34	
5	RD-58C_040611_01	15	~~SH-11_040611_01MSD~~	25		35	
6	RD-48A_040611_01	16	~~SH-11_040611_01DUP~~	26		36	
7	SH-11_040611_01MS	17	~~RD-58C_040611_01MS~~	27		37	
8	SH-11_040611_01MSD	18	RD-58C_040611_01MSD	28		38	
9	SH-11_040611_01DUP	19	RD-58C_040611_01DUP	29		39	
10	RD-58C_040611_01MS	20	PBW	30		40	

Notes: _____

LDC #: 25351A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: V

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1	W	(pH) TDS Cl (F) (NO3) NO2 SO4 PO4 ALK (CN-) (NH3) TKN TOC CR6+ (ClO4) (S)
2→6	↓	(pH) TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4)
QC 7,8	↓	pH TDS Cl F NO3 NO2 SO4 PO4 ALK (CN-) NH3 TKN TOC CR6+ ClO4 (S)
9	↓	(pH) TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
10,18	↓	pH TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4)
19	↓	pH TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ (ClO4)
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4

Comments: _____

LDC #: 25351A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: MG
2nd reviewer:

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:	9040B					
Parameters:	pH					
Technical holding time:	48 hr					

Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
3	09:37 4-6-11	11:11 4-8-11	(49.50 hr)				J/UJ/P (H)
5	10:12 4-6-11	11:15 4-8-11	(49.00 ↓)				↓

LDC #: 25351A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Were blank analyses performed as required? If no, please see qualifications below.
(Y) N N/A Were any activities in the blanks greater than the minimum detectable activity? If yes, please see qualifications below.

Conc. units: mg/L **Associated Samples: all** **Qual: U (B)**

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		1	2	4	5	6					
NH3-N	0.0566		0.283	0.063	0.21	0.083	0.14	0.26					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 25351A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover

(Y) N N/A Were field blanks identified in this SDG?

(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 4/7/11 Soil factor applied NA Qual: U (F)

Field blank type: (circle one) Field Blank / Rinsate / (Other): EB Associated Samples: 1

Analyte	Blank ID	Action Limit	Sample Identification							
	EB_SH-04_040711		1							
F	0.11	0.55								
NO3	0.19	0.95	0.26							
NH3-N	0.091	0.455	0.063							
CN	0.0020	0.01	0.0036							
pH (pH units)	5.83									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25351A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks?
Blank units: pH units **Associated sample units: pH units**
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) (Field Blank) / Rinsate / Other: Associated Samples: 1

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_041411_19		No Qual.							
pH	5.81									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 3, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

RD-48B_040611_01
RD-48A_040611_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 8015M for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Target Compound Identification

Raw data were not reviewed for this SDG.

VII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

VIII. System Performance

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	RD-48B_040611_01 RD-48A_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A8
SDG #: 280-14316 -1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 4/29/11
Page: 1 of 1
Reviewer: JVG
2nd Reviewer: Q

METHOD: GC Diesel Range Organics (EPA Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	Client Spec
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	RD-48B_040611_01	11	MB 280-61629/1-A	21		31	
2	RD-48A_040611_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 6, 2011
LDC Report Date:	May 5, 2011
Matrix:	Water
Parameters:	1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14316-1

Sample Identification

SH-11_040611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloroproane was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloroproane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A10
SDG #: 280-14316
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level ~~III~~ V

Date: 4/29/11
Page: 1 of 1
Reviewer: MK
2nd Reviewer:

METHOD: GC 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-11_040611_01	11		21		31	
2	MB 280-61877/1-A	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 6, 2011
LDC Report Date:	May 5, 2011
Matrix:	Water
Parameters:	Organophosphorus Pesticides
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14316-1

Sample Identification

SH-11_040611_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No organophosphorus pesticide contaminants were found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No organophosphorus pesticide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
SH-11_040611_01	secondary	Triphenyl Phosphate	156 (60-154)	All TCL compounds	J (all detects)	P
MB 280-61275/1-A	secondary	Triphenyl Phosphate	166 (60-154)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-14316-1	SH-11_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A17
SDG #: 280-14316-1
Laboratory: Teat America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level ~~III~~ V

Date: 4/29/11
Page: 1 of 1
Reviewer: VG
2nd Reviewer: G

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB_SH-04-040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-11_040611_01	11		21		31	
2	MB 280-61275/1-A	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 25351 AAE17

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [signature]

METHOD: ✓ GC ___ HPLC

Are surrogates required by the method? Yes___ or No___.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were surrogates spiked into all samples and blanks?

Y (N) N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ (Column)	Surrogate Compound	%R (Limits)	Qualifications
	1	Secondary	X	156 (60-154)	J dets / p (S)
		↓	↓	( )	↓
	MB 280-61275/1A	↓	↓	166 (↓)	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	1-Chlorooctadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-DCPAA
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 12, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

SH-11_040611_01
SH-11_040611_01MS
SH-11_040611_01MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hexachlorophene was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No hexachlorophene was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	SH-11_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A~~40~~44

SDG #: 280-14316

Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~III~~ ✓

Date: 4/29/11

Page: 1 of 1

Reviewer: JVC

2nd Reviewer:

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not req'd.
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB-041411_19 (from 280-14655-1) EB_SH-04-040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	SH-11_040611_01	11	MB 280-61993/10	21		31	
2	SH-11_040611-01 MS	12		22		32	
3	↓ MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 3, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1/280-04167/A1D070454

Sample Identification

SH-11_040611_01
RD-48B_040611_01
RD-58A_040611_01
RD-58B_040611_01
RD-58C_040611_01
RD-48A_040611_01
RD-58C_040611_01MS
RD-58C_040611_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1/A1D080511) was identified as an equipment blank. No formaldehyde was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No formaldehyde was found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identifications

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1/280-04167/A1D070454	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-14316-1/280-04167/A1D070454

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1/280-04167/A1D070454	SH-11_040611_01 RD-48B_040611_01 RD-58A_040611_01 RD-58B_040611_01 RD-58C_040611_01 RD-48A_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14316-1/280-04167/A1D070454

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14316-1/280-04167/A1D070454

No Sample Data Qualified in this SDG

LDC #: 25351A71 **VALIDATION COMPLETENESS WORKSHEET** Date: 4/29/11
SDG #: 280-14316/280-04167/A1D070454 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: VG
2nd Reviewer: Q

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	LCS
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	ND	FB = FB-041411-19 (from 280-14655-1) EB_SH-04-040711 (280-14379-1/A1D080511)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-11_040611_01	11	1097201 MB	21		31	
2	RD-48B_040611_01	12		22		32	
3	RD-58A_040611_01	13		23		33	
4	RD-58B_040611_01	14		24		34	
5	RD-58C_040611_01	15		25		35	
6	RD-48A_040611_01	16		26		36	
7	RD-58C-040611_01 MS	17		27		37	
8	↓ MSD	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 3, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-1

Sample Identification

RD-48B_040611_01
RD-58A_040611_01
RD-58B_040611_01
RD-58C_040611_01
RD-48A_040611_01
RD-58C_040611_01MS
RD-58C_040611_01MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-58C_040611_01MS/MSD (RD-58C_040611_01)	1,1 Dimethylhydrazine Hydrazine	- -	- -	53 (≤30) 49 (≤30)	J (all detects)	A

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14316-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-1	RD-58C_040611_01	1,1 Dimethylhydrazine Hydrazine	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD) (Q)
280-14316-1	RD-48B_040611_01 RD-58A_040611_01 RD-58B_040611_01 RD-58C_040611_01 RD-48A_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14316-1

No Sample Data Qualified in this SDG

LDC #: 25351A76 **VALIDATION COMPLETENESS WORKSHEET** Date: 4/29/11
SDG #: 280-14316 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MC
2nd Reviewer: CJ

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
IIa.	Initial calibration	N	
IIb.	Calibration verification/ICV	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not reqd.
IVb.	Matrix spike/Matrix spike duplicates	SW	
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-48B_040611_01	11	MB 280-61988/25	21		31	
2	RD-58A_040611_01	12		22		32	
3	RD-58B_040611_01	13		23		33	
4	RD-58C_040611_01	14		24		34	
5	RD-48A_040611_01	15		25		35	
6	RD-58C_040611_01MS	16		26		36	
7	RD-58C_040611_01MSD	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25351A76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JM
2nd reviewer: Q

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
All	W	Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
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		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine
		Hydrazine 1,1-Dimethylhydrazine Monomethyl Hydrazine

Comments:

LDC #: 25357A76

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: JVG
2nd Reviewer:

METHOD: __ GC / HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y N N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	6/7	A	( )	( )	53 (30)	4	J (all det.) A (QC)
		B	( )	( )	49 (↓)	↓	↓ ↓
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

A = 1,1- Dimethyl hydrazine

B = Hydrazine

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 13, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on April 26, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25351:

SDG #	Fraction
280-14316/IUD0871/ 280-04167/A1D070454	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Pentachlorophenol, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazines
280-14316-2	Perchlorate
280-14402-1/ H1D090407	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004

- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV

LDC #25351 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		NDMA (1625)		PCP (8270C-LL)		Pest (8081A)		PCB (8082)		Metals (SW846)		Diss. Metals (SW846)		Herbs (8151A)		DRO (8015M)		EDB (504.1)		OPHS Pest (8141A)		Hexa chloro (8321A)		Formal-dehyde (8315)		Dioxin (8290)	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14316/ IUD0871/ 280-04167/ A1D070454	04/26/11	05/17/11	8	0	8	0	4	0	5	0	6	0	1	0	1	0	1	0	1	0	1	0	1	0	2	0	1	0	1	0	1	0	6	0	-	-
A	280-14316/ IUD0871/ 280-04167/ A1D070454	04/26/11	05/17/11	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
C	280-14402-1/ H1D090407	04/26/11	05/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0
Total	A/PG			8	0	8	0	4	0	9	0	6	0	1	0	1	0	1	0	1	0	1	0	1	0	2	0	1	0	1	0	1	0	6	0	4	56

Client Select IV

LDC #25351 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		NH_3-N (350.1)		F NO_3 (300.0)		CLO_4 (314.0)		pH (9040B)		Cyanide (9012A)		S= (4500-S2-D)		CLO_4 (6860)															
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
A	280-14316/ IUD0871/ 280-04167/ A1D070454	04/26/11	05/17/11	5	0	5	0	5	0	6	0	6	0	6	0	6	0	1	0	1	0	-	-														
B	280-14316-2	04/26/11	05/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0														
Total	A/PG			5	0	5	0	5	0	6	0	6	0	6	0	6	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 6, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Perchlorate

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14316-2

Sample Identification

RD-48B_040611_01
RD-58B_040611_01

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW846 Method 6860 for Perchlorate.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14316-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Data Qualification Summary - SDG 280-14316-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14316-2	RD-48B_040611_01 RD-58B_040611_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 280-14316-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
Perchlorate - Field Blank Data Qualification Summary - SDG 280-14316-2

No Sample Data Qualified in this SDG

LDC #: 25351B87 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/05/11
SDG #: 280-14316-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JM
2nd Reviewer: Q

METHOD: LC/MS Perchlorate (EPA SW846 Method 6860)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/06/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	client spike
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	RD-48B_040611_01	11	MB 280-62046/11	21		31	
2	RD-58B_040611_01	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 13, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on April 26, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25351:

SDG #	Fraction
280-14316/IUD0871/ 280-04167/A1D070454	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, N-Nitrosodimethylamine, Pentachlorophenol, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Organophosphorus Pesticides, Hexachloroethane, Formaldehyde, Hydrazines
280-14316-2	Perchlorate
280-14402-1/ H1D090407	Dioxins/Dibenzofurans

The data validation was performed under EPA Level IV & V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004

- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Attachment 1

EDD Client Select IV

LDC #25351 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		NDMA (1625)		PCP (8270C-LL)		Pest (8081A)		PCB (8082)		Metals (SW846)		Diss. Metals (SW846)		Herbs (8151A)		DRO (8015M)		EDB (504.1)		OPHS Pest (8141A)		Hexa chloro (8321A)		Formal-dehyde (8315)		Dioxin (8290)	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14316/ IUD0871/ 280-04167/ A1D070454	04/26/11	05/17/11	8	0	8	0	4	0	5	0	6	0	1	0	1	0	1	0	1	0	1	0	1	0	2	0	1	0	1	0	1	0	6	0	-	-
A	280-14316/ IUD0871/ 280-04167/ A1D070454	04/26/11	05/17/11	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
C	280-14402-1/ H1D090407	04/26/11	05/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0
Total	A/PG			8	0	8	0	4	0	9	0	6	0	1	0	1	0	1	0	1	0	1	0	1	0	2	0	1	0	1	0	1	0	6	0	4	56

Client Select IV

LDC #25351 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		NH_3-N (350.1)		F NO_3 (300.0)		CLO_4 (314.0)		pH (9040B)		Cyanide (9012A)		S= (4500-S2-D)		CLO_4 (6860)															
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
A	280-14316/ IUD0871/ 280-04167/ A1D070454	04/26/11	05/17/11	5	0	5	0	5	0	6	0	6	0	6	0	6	0	1	0	1	0	-	-												
B	280-14316-2	04/26/11	05/17/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0												
Total	A/PG			5	0	5	0	5	0	6	0	6	0	6	0	6	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 7, 2011
LDC Report Date:	May 11, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14402-1/H1D090407

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711
RS-33_040711_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1101120-MB	4/11/11	OCDD	5.8 pg/L	All samples in SDG 280-14402-1/H1D090407

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14402-1/H1D090407	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14402-1/H1D090407

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14402-1/ H1D090407	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711 RS-33_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14402-1/H1D090407

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14402-1/H1D090407

No Sample Data Qualified in this SDG

LDC #: 25351C21 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/05/11
SDG #: 280-14402-1/H1D090407 Level V Page: 1 of 1
Laboratory: Test America Inc. Reviewer: JVC
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	EB = 2 FB = FB_041411_19 (from 280-14659-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

1	SH-04_040711_01	11	11/01/20 MB	21		31	
2	EB_SH-04_040711	12		22		32	
3	HAR-26_040711_01	13		23		33	
4	RS-33_040711_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25351 C21

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JV
2nd Reviewer: Q

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a method blank?

Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?

Y N N/A Was the method blank contaminated?

Blank extraction date: 4/11/11 **Blank analysis date:** 4/13/11 **Associated samples:** All (ND)

Conc. units: pg/L

Compound	Blank ID	Sample Identification								
	110120-MB									
G	5.8									

Blank extraction date: _____ **Blank analysis date:** _____

Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 17, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25382:

SDG #	Fraction
280-14379-1/IUD0891 280-14432-1/IUD1055	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Formaldehyde, Hexachloroethane, Organophosphorus Pesticides, Herbicides, Hydrazines
280-14379-2	N-Nitrosodimethylamine
280-14437-1 280-14490-1/H1D130480 280-14530-1/H1D140421	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV — LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formal-dehyde (8315)		Hexachlor ophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14379-1 IUD0891	05/02/11	05/23/11	11	0	11	0	11	0	8	0	4	0	8	0	4	0	4	0	4	0	4	0	4	0	6	0	8	0	4	0	4	0	4	0		
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14432-1/ IUD1055	05/02/11	05/23/11	8	0	8	0	8	0	6	0	1	0	6	0	1	0	1	0	3	0	3	0	4	0	2	0	6	0	1	0	1	0	1	0		
Total	T/PG			19	0	19	0	19	0	14	0	5	0	18	0	5	0	5	0	7	0	7	0	8	0	8	0	14	0	5	0	5	0	5	0	0	163

Client Select IV — LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxins (8290)		Alk. (2320B)		NH_3-N (350.1)		Cl SO_4 (300.0)		F NO_3 (300.0)		CN- (9012A)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2-D)					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14379-1/ A1D080511	05/02/11	05/23/11	5	0	5	0	5	0	-	-	1	0	8	0	1	0	8	0	4	0	1	0	8	0	8	0	1	0	1	0	4	0				
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
C	280-14432-1/ IUD1055	05/02/11	05/23/11	4	0	4	0	4	0	-	-	3	0	6	0	3	0	7	0	1	0	3	0	7	0	7	0	3	0	3	0	1	0				
D	280-14437-1	05/02/11	05/23/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
E	280-14490-1/ H1D130480	05/02/11	05/23/11	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
F	280-14530-1/ H1D140421	05/02/11	05/23/11	-	-	-	-	-	-	8	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total	T/PG			9	0	9	0	9	0	15	0	4	0	14	0	4	0	15	0	5	0	4	0	15	0	15	0	4	0	4	0	5	0	0	0	0	131

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
TB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01
TB_RS-33_040711
RD-36A_040711_01
RD-36B_040711_01
RD-36C_040711_01
TB_RD-36C_040711
RD-36D_040711_01
HAR-26_040711_01MS
HAR-26_040711_01MSD

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_SH-04_040711, TB_RS-33_040711, and TB_RD-36C_040711 were identified as trip blanks. No volatile contaminants were found in these blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No volatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
EB_SH-04_040711	1,2-Dichloroethane-d4	127 (80-120)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
TB_SH-04_040711	1,2-Dichloroethane-d4 Toluene-d8	124 (80-120) 111 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
HAR-26_040711_01	1,2-Dichloroethane-d4 Toluene-d8	122 (80-120) 111 (88-110)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RS-33_040711_01	1,2-Dichloroethane-d4 Toluene-d8 Dibromofluoromethane	129 (80-120) 123 (88-110) 121 (86-118)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A
TB_RS-33_040711	1,2-Dichloroethane-d4	123 (80-120)	Acrolein Acrylonitrile	J (all detects) J (all detects)	A

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
HAR-26_040711_01MS/MSD (HAR-26_040711_01)	1,1,1,2-Tetrachloroethane	75 (77-120)	-	-	J (all detects) UJ (all non-detects)	A
	1,4-Dichlorobenzene	76 (77-120)	-	-		
	Chlorobenzene	77 (78-120)	-	-		
	Ethylbenzene	75 (78-120)	-	-		
	m,p-Xylenes	77 (78-120)	-	-		
	o-Xylene	74 (77-120)	-	-		
	Styrene	72 (77-120)	59 (77-120)	-		
	Tetrachloroethene	76 (77-120)	76 (77-120)	-		
	trans-1,4-Dichloro-2-butene	51 (70-130)	55 (70-130)	-		

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	EB_SH-04_040711 TB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 TB_RS-33_040711	Acrolein Acrylonitrile	J (all detects) J (all detects)	A	Surrogate spikes (%R) (S)
280-14379-1	HAR-26_040711_01	1,1,1,2-Tetrachloroethane 1,4-Dichlorobenzene Chlorobenzene Ethylbenzene m,p-Xylenes o-Xylene Styrene Tetrachloroethene trans-1,4-Dichloro-2-butene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 TB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 TB_RS-33_040711 RD-36A_040711_01 RD-36B_040711_01 RD-36C_040711_01 TB_RD-36C_040711 RD-36D_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A1a
SDG #: 280-14379-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5/11/11
Page: 1 of 1
Reviewer: NG
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	~~SW~~ A	LCS / D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 2 TB = 3 6 10 FB = FB_041411-19 (280-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

+ 1	SH-04_040711_01	+ 11	RD-36D_040711_01	− 21	MB 280-61699/6	31	(FFFF, GGGG)
− 2	EB_SH-04_040711	12	HAR-26_040711_01MS	− 22	MB 280-62456/6	32	
− 3	TB_SH-04_040711	13	HAR-26_040711_01MSD	23		33	
− 4	HAR-26_040711_01	14		24		34	
+ 5	RS-33_040711_01	15		25		35	
− 6	TB_RS-33_040711	16		26		36	
− 7	RD-36A_040711_01	17		27		37	
4x + 8	RD-36B_040711_01	18		28		38	
+ 9	RD-36C_040711_01	19		29		39	
− 10	TB_RD-36C_040711	20		30		40	

8260B-App IX = 1 - 5

8260B-VOC, IPA, App IX = 6 - 11

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	lll. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	llll. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN. trans-1,4-Dichloro-2-butene
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 25382A1a

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

(Code: S)

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		2	DCE	127 (80-120)	J detects / A (qual FFFF GGGG only)
				( )	
		3	↓	124 (✓)	
			TOL	111 (88-110)	
				( )	
		4	DCE	122 (80-120)	
			TOL	111 (88-110)	
				( )	
		5	DCE	129 (80-120)	
			TOL	123 (88-110)	
			DFM	121 (86-118)	
				( )	
		6	DCE	123 (80-120)	✓ ✓
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	QC Limits (Soil)	QC Limits (Water)
SMC1 (TOL) = Toluene-d8	85-115	85-120
SMC2 (BFB) = Bromofluorobenzene	85-120	75-120
SMC3 (DCE) = 1,2-Dichloroethane-d4	60-120	70-120
SMC4 (DFM) = Dibromofluoromethane	75-125	85-115

LDC #: 25382A1Q

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JV6
2nd Reviewer: Q

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	12/13	UU	75 (77-120)	( )	( )	4	J/UJ/A (Q)
		HHH	76 (77-120)	( )	( )		
		DD	77 (78-120)	( )	( )		
		EE	75 (78-120)	( )	( )		
		RRR	77 (78-120)	( )	( )		
		SSS	74 (77-120)	( )	( )		
		FF	72 (77-120)	59 (77-120)	( )		
		AA	76 (77-120)	76 (77-120)	( )		
		NNN	54 (70-130)	55 (70-130)	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
TB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01
TB_RS-33_040711
RD-36A_040711_01
RD-36B_040711_01
RD-36C_040711_01
TB_RD-36C_040711
RD-36D_040711_01

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_SH-04_040711, TB_RS-33_040711, and TB_RD-36C_040711 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No 1,4-dioxane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 TB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 TB_RS-33_040711 RD-36A_040711_01 RD-36B_040711_01 RD-36C_040711_01 TB_RD-36C_040711 RD-36D_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A1b **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: JVC
2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 2 TB = 3.6.10 FB = FB_041411_19 (250-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

+ 1	SH-04_040711_01	+ 11	RD-36D_040711_01	21	MB 280-61766/12	31	
- 2	EB_SH-04_040711	12		22	MB 280-61905/5	32	
- 3	TB_SH-04_040711	13		23		33	
- 4	HAR-26_040711_01	14		24		34	
+ 5	RS-33_040711_01	15		25		35	
- 6	TB_RS-33_040711	16		26		36	
- 7	RD-36A_040711_01	17		27		37	
- 8	RD-36B_040711_01	18		28		38	
+ 9	RD-36C_040711_01	19		29		39	
- 10	TB_RD-36C_040711	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1/IUD0891

Sample Identification

SH-04_040711_01
EB_SH-04_040711
TB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01
TB_RS-33_040711
RD-36A_040711_01
RD-36B_040711_01
RD-36C_040711_01
TB_RD-36C_040711
RD-36D_040711_01
SH-04_040711_01DUP

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Samples TB_SH-04_040711, TB_RS-33_040711, and TB_RD-36C_040711 were identified as trip blanks. No 1,2,3-trichloropropane was found in these blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No 1,2,3-trichloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1/IUD0891	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14379-1/IUD0891

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1/ IUD0891	SH-04_040711_01 EB_SH-04_040711 TB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 TB_RS-33_040711 RD-36A_040711_01 RD-36B_040711_01 RD-36C_040711_01 TB_RD-36C_040711 RD-36D_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14379-1/IUD0891

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14379-1/IUD0891

No Sample Data Qualified in this SDG

LDC #: 25382A1c **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1/IUD0891 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SW
2nd Reviewer: CJ

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates / Lab Dup	N/A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 2 TB = 3, 6, 10 FB = FB-041411_19 (280-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-04_040711_01	11	RD-36D_040711_01	21	11D1281-BLK1	31	
2	EB_SH-04_040711	12	SH-04_040711_01MS Dup	22	11D1463 - ↓	32	
3	TB_SH-04_040711	13	~~SH-04_040711_01MSD~~	23		33	
4	HAR-26_040711_01	14		24		34	
5	RS-33_040711_01	15		25		35	
6	TB_RS-33_040711	16		26		36	
7	RD-36A_040711_01	17		27		37	
8	RD-36B_040711_01	18		28		38	
9	RD-36C_040711_01	19		29		39	
10	TB_RD-36C_040711	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01
RD-36A_040711_01
RD-36B_040711_01
RD-36C_040711_01
RD-36D_040711_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 RD-36A_040711_01 RD-36B_040711_01 RD-36C_040711_01 RD-36D_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A2a **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 2 FB = FB_041411_19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	SH-04_040711_01	11	MB 280-61520/1-A	21		31	
2	EB_SH-04_040711	12		22		32	
3	HAR-26_040711_01	13		23		33	
4	RS-33_040711_01	14		24		34	
5	RD-36A_040711_01	15		25		35	
6	RD-36B_040711_01	16		26		36	
7	RD-36C_040711_01	17		27		37	
8	RD-36D_040711_01	18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01
RD-36A_040711_01
RD-36B_040711_01
RD-36C_040711_01
RD-36D_040711_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Samples FB_041411_19 (from SDG 280-14655-1), FB_SH-04_040711_19 and FB_RS-33_040711_19 (from SDG 280-14379-2) were identified as field blanks. No N-Nitrosodimethylamine was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-04_040711_01 and SH-04_040711_36 (from SDG 280-14379-2) and samples RS-33_040711_01 and RS-33_040711_36 (from SDG 280-14379-2) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-04_040711_01	SH-04_040711_36			
N-Nitrosodimethylamine	0.084	0.077	9 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RS-33_040711_01	RS-33_040711_36			
N-Nitrosodimethylamine	0.084	0.077	11 (≤35)	-	-

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 RD-36A_040711_01 RD-36B_040711_01 RD-36C_040711_01 RD-36D_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A2b

SDG #: 280-14379-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level V

Date: 5/11/11

Page: 1 of 1

Reviewer: LVG

2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_1 = 1 + SH-04_040711_01 (36); D_2 = 4 + RS-33_040711_01 (36) > from 280-14379-2
XVII.	Field blanks	ND	EB = 2 FB = FB-041411_19 (280-14855-1) FB_RS-33_040711_19 (280-14379-2) FB_SH-04-040711_19

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

+ 1	SH-04_040711_01	11	MB 280-61693/1-A	21		31	
− 2	EB_SH-04_040711	12	MB 280-62133/1-A	22		32	
− 3	HAR-26_040711_01	13		23		33	
+ 4	RS-33_040711_01	14		24		34	
− 5	RD-36A_040711_01	15		25		35	
− 6	RD-36B_040711_01	16		26		36	
− 7	RD-36C_040711_01	17		27		37	
− 8	RD-36D_040711_01	18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:25382A2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: DVG
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	SH-04_040711_01	SH-04_040711_36		
NDMA	0.084	0.077	9	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	RS-33_040711_01	RS-33_040711_36		
NDMA	0.20	0.18	11	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Pentachlorophenol

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No pentachlorophenol was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No pentachlorophenol was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Pentachlorophenol - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A2c **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer: [signature]

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C~~LL~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 2 FB = FB_041411_19 (280-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	SH-04_040711_01	11	MB 280-61637/1-A	21		31	
2	EB_SH-04_040711	12		22		32	
3	HAR-26_040711_01	13		23		33	
4	RS-33_040711_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 7, 2011
LDC Report Date:	May 10, 2011
Matrix:	Water
Parameters:	Chlorinated Pesticides
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No chlorinated pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No chlorinated pesticide contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A3a
SDG #: 280-14379-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5/11/11
Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = 2 FB = FB_041411_19 (280-14665-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-04_040711_01	11	MB 280-61622/1-A	21		31	
2	EB_SH-04_040711	12		22		32	
3	HAR-26_040711_01	13		23		33	
4	RS-33_040711_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No polychlorinated biphenyls were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No polychlorinated biphenyls were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A3b
SDG #: 280-14379-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5/11/11
Page: 1 of 1
Reviewer: SW
2nd Reviewer: Q

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	EB = 2 FB = FB_040411_19 (280-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-04_040711_01	11	MB 280-61622/1-A	21		31	
2	EB_SH-04_040711	12		22		32	
3	HAR-26_040711_01	13		23		33	
4	RS-33_040711_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 11, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01
SH-04_040711_01F
EB_SH-04_040711F
HAR-26_040711_01F
RS-33_040711_01F
RS-33_040711_01MS
RS-33_040711_01MSD
SH-04_040711_01FMS
SH-04_040711_01FMSD
RS-33_040711_01FMS
RS-33_040711_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese Sodium	0.00120 mg/L 0.171 mg/L	RS-33_040711_01F
PB (prep blank)	Manganese	0.000320 mg/L	RS-33_040711_01
PB (prep blank)	Mercury Selenium	0.0000340 mg/L 0.00118 mg/L	SH-04_040711_01F EB_SH-04_040711F HAR-26_040711_01F RS-33_040711_01F
PB (prep blank)	Thallium Tin	0.0000389 mg/L 0.000340 mg/L	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-04_040711_01	Thallium Tin	0.000044 mg/L 0.00046 mg/L	0.000044U mg/L 0.00046U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
EB_SH-04_040711	Tin	0.00028 mg/L	0.00028U mg/L
HAR-26_040711_01	Tin	0.00018 mg/L	0.00018U mg/L
RS-33_040711_01	Tin	0.0012 mg/L	0.0012U mg/L
SH-04_040711_01F	Mercury Selenium	0.000047 mg/L 0.0012 mg/L	0.000047U mg/L 0.0012U mg/L
EB_SH-04_040711F	Mercury	0.000034 mg/L	0.000034U mg/L
HAR-26_040711_01F	Mercury	0.000035 mg/L	0.000035U mg/L
RS-33_040711_01F	Manganese Mercury	0.0036 mg/L 0.000036 mg/L	0.0036U mg/L 0.000036U mg/L

Samples EB_SH-04_040711 and EB_SH-04_040711F were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Tin Mercury	0.00028 mg/L 0.000037 mg/L	SH-04_040711_01
EB_SH-04_040711F	4/7/11	Silver Tin Mercury	0.000018 mg/L 0.00030 mg/L 0.000034 mg/L	SH-04_040711_01F

Samples FB_041411_19 and FB_041411_19F (both from SDG 250-14655-1) were identified as field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	Iron	0.030 mg/L	SH-04_040711_01
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	SH-04_040711_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-04_040711_01	Tin Mercury	0.00046 mg/L 0.000046 mg/L	0.00046U mg/L 0.000046U mg/L
SH-04_040711_01F	Mercury	0.000047 mg/L	0.000047U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14379-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 SH-04_040711_01F EB_SH-04_040711F HAR-26_040711_01F RS-33_040711_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14379-1	SH-04_040711_01	Thallium Tin	0.000044U mg/L 0.00046U mg/L	A	B
280-14379-1	EB_SH-04_040711	Tin	0.00028U mg/L	A	B
280-14379-1	HAR-26_040711_01	Tin	0.00018U mg/L	A	B
280-14379-1	RS-33_040711_01	Tin	0.0012U mg/L	A	B
280-14379-1	SH-04_040711_01F	Mercury Selenium	0.000047U mg/L 0.0012U mg/L	A	B
280-14379-1	EB_SH-04_040711F	Mercury	0.000034U mg/L	A	B
280-14379-1	HAR-26_040711_01F	Mercury	0.000035U mg/L	A	B
280-14379-1	RS-33_040711_01F	Manganese Mercury	0.0036U mg/L 0.000036U mg/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14379-1	SH-04_040711_01	Tin Mercury	0.00046U mg/L 0.000046U mg/L	A	F
280-14379-1	SH-04_040711_01F	Mercury	0.000047U mg/L	A	F

LDC #: 25382A4
SDG #: 280-14379-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5-5-11
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-7-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=2,6 FB=FB-041411-19 (SDG: 280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

FB= FB-041411-19F (SDG: 280-14655-1)

Validated Samples: all water

1	SH-04_040711_01	11	SH-04_040711_01FMS	21		31	
2	EB_SH-04_040711	12	SH-04_040711_01FMSD	22		32	
3	HAR-26_040711_01	13	RS-33_040711_01FMS	23		33	
4	RS-33_040711_01	14	RS-33_040711_01FMSD	24		34	
5	SH-04_040711_01F	15		25		35	
6	EB_SH-04_040711F	16		26		36	
7	HAR-26_040711_01F	17		27		37	
8	RS-33_040711_01F	18		28		38	
9	RS-33_040711_01MS	19	PBW1	29		39	
10	RS-33_040711_01MSD	20	PBW2	30		40	

Notes: Samples appended with "F" were analyzed for dissolved metals

LDC #: 25382A4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer: ✓

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1→3 5→7	W	Al, (Sb), As, Ba, Be, (Cd), Ca, (Cr), Co, (Cu), Fe, (Pb), Mg, Mn, (Hg), (Ni), K, (Se), (Ag), Na, (Tl), V, (Zn), Mo, B, Si, CN⁻, (Sn)
4, 8	↓	Al, (Sb), As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, (Sn) (Sr)
QC 9, 10		Al, (Sb), As, Ba, Be, (Cd), Ca, (Cr), Co, (Cu), Fe, (Pb), Mg, Mn, (Hg), (Ni), K, (Se), (Ag), Na, (Tl), V, (Zn), Mo, B, Si, CN⁻, (Sn)
11, 12		Al, (Sb), As, Ba, Be, (Cd), Ca, (Cr), Co, (Cu), Fe, (Pb), Mg, Mn, Hg, (Ni), K, (Se), (Ag), Na, (Tl), V, (Zn), Mo, B, Si, CN⁻, (Sn)
13, 14	↓	Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, Zn, Mo, B, Si, CN⁻, (Sr)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,
Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, Zn, Mo, B, Si, CN⁻, (Sr)
ICP-MS	↓	Al, (Sb), As, Ba, Be, (Cd), Ca, (Cr), Co, (Cu), Fe, (Pb), Mg, Mn, Hg, (Ni), K, (Se), (Ag), Na, (Tl), V, (Zn), Mo, B, Si, CN⁻, (Sn)
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,

Comments: Mercury by CVAA if performed

LDC #: 25382A4

Reviewer: MG

2nd Reviewer:

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 8 Qual: U (B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	8									
Mn		0.00120		0.006	0.0036									
Na		0.171		0.855										

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 4 (>5x)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual.									
Mn		0.000320		0.0016										

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 5-8 Qual: U (B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	5	6	7	8						
Hg		0.0000340		0.00017	0.000047	0.000034	0.000035	0.000036						
Se		0.00118		0.0059	0.0012									

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1-4 Qual: U (B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1	2	3	4						
Tl		0.0000389		0.0001945	0.000044									
Sn		0.000340		0.0017	0.00046	0.00028	0.00018	0.0012						

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 25382A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW846 6010B/7000)

(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/7/11 Soil factor applied NA Qual: U (F)
Field blank type: (circle one) Field Blank / Rinsate / (Other) EB Associated Samples: 1

Analyte	Blank ID	Sample Identification										
	2	Action Level	1									
Sn	0.00028	0.0014	0.00046									
Hg	0.000037	0.000185	0.000046									

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/7/11 Soil factor applied NA Qual: U (F)
Field blank type: (circle one) Field Blank / Rinsate / (Other): EB Associated Samples: 5

Analyte	Blank ID	Sample Identification										
	6	Action Level	5									
Ag	0.000018	0.00009										
Sn	0.00030	0.0015	~~0.00017~~	SN/5								
Hg	0.000034	0.00017	0.000047									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25382A4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW846 6010B/7000)

(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 1 (Not analyzed for Fe)

Analyte	Blank ID	Sample Identification											
	FB_041411_19	Action Level	No Qual's.										
Fe	0.030	0.15											

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 5 (Sn is ND; Not analyzed for Fe, Mn, Na)

Analyte	Blank ID	Sample Identification											
	FB_041411_19F	Action Level	No Qual's.										
Fe	0.082	0.41											
Mn	0.0012	0.006											
Na	0.29	1.45											
Sn	0.00017	0.00085											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Herbicides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A5 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer: CK

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 2 FB = FB-041411_19 (280-14355-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Waters

1	SH-04_040711_01	11	MB 280-61806/1-A	21		31	
2	EB_SH-04_040711	12	MB 280-62178/1-A	22		32	
3	HAR-26_040711_01	13		23		33	
4	RS-33_040711_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: 2,4,5-T ; 2,4-D ; Dinoseb ; 2,4,5-TP

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 11, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01
RD-36A_040711_01
RD-36B_040711_01
RD-36C_040711_01
RD-36D_040711_01
SH-04_040711_01MS
SH-04_040711_01MSD
RS-33_040711_01DUP
RD-36B_040711_01MS
RD-36B_040711_01MSD
RD-36B_040711_01DUP

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, Standard Method 2510 for Specific Conductance, EPA Method 300.0 for Chloride, Fluoride, Nitrate, and Sulfate, EPA SW 846 Method 9012A for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2-D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No contaminant concentrations were found in this blank with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Fluoride Nitrate Ammonia as N Cyanide pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 0.0020 mg/L 5.83 units	SH-04_040711_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 units	SH-04_040711_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-04_040711_01	Ammonia as N Cyanide	0.088 mg/L 0.0058 mg/L	0.088U mg/L 0.0058U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14379-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 RD-36A_040711_01 RD-36B_040711_01 RD-36C_040711_01 RD-36D_040711_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14379-1	SH-04_040711_01	Ammonia as N Cyanide	0.088U mg/L 0.0058U mg/L	A	F

LDC #: 25382A6
SDG #: 280-14379-1
Laboratory: Test America Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5-5-11
Page: 1 of 1
Reviewer: MG
2nd Reviewer:

9m Y

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Conductivity (SM2510B), Chloride, Fluoride, Nitrate-~~N~~, Sulfate (EPA Method 300.0), Cyanide (EPA SW846 Method 9012A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2-D), TDS (SM~~2440C~~), Turbidity (EPA Method 180.1)
The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets. TDS (SM 2540C)

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-7-11
II	Initial calibration	N	
III.	Calibration verification	N	
IV	Blanks	A	
V	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
VI.	Duplicates	A	DUP
VII.	Laboratory control samples	A	LCS/LCSD
VIII.	Sample result verification	N	
IX.	Overall assessment of data	A	
X.	Field duplicates	N	
XI	Field blanks	SW	EB = 2 FB = FB_041411_19 (SDG: 280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	SH-04_040711_01	11	RS-33_040711_01DUP	21		31	
2	EB_SH-04_040711	12	RD-36B_040711_01MS	22		32	
3	HAR-26_040711_01	13	RD-36B_040711_01MSD	23		33	
4	RS-33_040711_01	14	RD-36B_040711_01DUP	24		34	
5	RD-36A_040711_01	15		25		35	
6	RD-36B_040711_01	16		26		36	
7	RD-36C_040711_01	17		27		37	
8	RD-36D_040711_01	18		28		38	
9	SH-04_040711_01MS	19		29		39	
10	SH-04_040711_01MSD	20		30	PBW	40	

Notes:

LDC #: 2538246

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: [signature]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1→3	W	(pH) TDS Cl (F) (NO3) NO2 SO4 PO4 ALK (CN) (NH3) TKN TOC CR6+ (ClO4) (S)
4	↓	(pH) (TDS) (Cl) (F) (NO3) NO2 (SO4) PO4 (ALK) (CN) (NH3) TKN TOC CR6+ (ClO4) (S) (Turb) (Cond)
5→8		(pH) TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN (NH3) TKN TOC CR6+ (ClO4)
QC 9, 10		pH TDS Cl F NO3 NO2 SO4 PO4 ALK (CN) (NH3) TKN TOC CR6+ ClO4 (S)
11		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4 (Turb) (Cond)
↓ 12→14	↓	pH TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN NH3 TKN TOC CR6+ ClO4

Comments: _____

LDC #: 25382A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover

(Y) N N/A Were field blanks identified in this SDG?

(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units: mg/L**

Sampling date: 4/7/11 Soil factor applied NA Qual: U (F)

Field blank type: (circle one) Field Blank / Rinsate / (Other): EB Associated Samples: 1.

Analyte	Blank ID	Action Limit	Sample Identification							
	2		1							
F	0.11	0.55								
NO3	0.19	0.95								
NH3-N	0.091	0.455	0.088							
CN	0.0020	0.01	0.0058							
pH (pH units)	5.83									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25382A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: Q

METHOD: Inorganics, EPA Method See Cover
(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks?
Blank units: pH units **Associated sample units: pH units**
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) (Field Blank) / Rinsate / Other: Associated Samples: 1

Analyte	Blank ID	Action Limit	Sample Identification							
	FB_041411_19		No Qual.							
pH	5.81									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

RD-36A_040711_01
RD-36B_040711_01
RD-36C_040711_01
RD-36D_040711_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
RD-36C_040711_01	ortho-Terphenyl	127 (50-115)	Diesel range organics	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	RD-36C_040711_01	Diesel range organics	J (all detects)	P	Surrogate spikes (%R) (S)
280-14379-1	RD-36A_040711_01 RD-36B_040711_01 RD-36C_040711_01 RD-36D_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A8 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer:

METHOD: GC Diesel Range Organics (8015B) (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS 1D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	A	
XIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	RD-36A_040711_01	11	MB 280-61629/1-A	21		31	
2	RD-36B_040711_01	12		22		32	
3	RD-36C_040711_01	13		23		33	
4	RD-36D_040711_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25382A4

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JM
2nd Reviewer: 9

METHOD: ✓ GC ___ HPLC

Are surrogates required by the method? Yes ✓ or No ___.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples and blanks?

Y N N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	3	RTX-1	H	127 (50-115)	J dets / P (5)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	1-Chlorooctadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-DCPAA
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
TB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01
TB_RS-33_040711

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Samples TB_SH-04_040711 and TB_RS-33_040711 were identified as trip blanks. No 1,2-dibromoethane or 1,2-dibromo-3-chloroproane was found in these blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloroproane was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloroproane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 TB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 TB_RS-33_040711	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A10 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [signature]

METHOD: GC 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 2 TB = 3, 6 FB = FB-041411-19 (280-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	SH-04_040711_01	11	MB 280-61877/4-A	21		31	
2	EB_SH-04_040711	12	MB 280-62460/4-A	22		32	
3	TB_SH-04_040711	13		23		33	
4	HAR-26_040711_01	14		24		34	
5	RS-33_040711_01	15		25		35	
6	TB_RS-33_040711	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Organophosphorus Pesticides

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No organophosphorus pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No organophosphorus pesticide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
SH-04_040711_01	1 2	Triphenyl phosphate Triphenyl phosphate	170 (60-154) 188 (60-154)	All TCL compounds	J (all detects)	P
MB 280-61938/1-A	1 2	Triphenyl phosphate Triphenyl phosphate	172 (60-154) 188 (60-154)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A17 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MC
2nd Reviewer: Q

METHOD: GC Organophosphorus Pesticides (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 2 FB = FB_041411_19 (280-14665-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	SH-04_040711_01	11	MB 280-61938/1-A	21		31	
2	EB_SH-04_040711	12		22		32	
3	HAR-26_040711_01	13		23		33	
4	RS-33_040711_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25382 A4 (17)

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: ✓

METHOD: ✓ ~~GC~~ ~~HPLC~~ (LCMS)

Are surrogates required by the method? Yes ✓ or No ____.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples and blanks?

Y N N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	1	Col. 1	X	170 (60-154)	J Acts / P (S)
		Col. 2	↓	188 (↓)	↓ ↓
				( )	
				( )	
	MB 280-61938/1-A	Col. 1	X	172 ( )	
		Col. 2	↓	188 ( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	1-Chlorooctadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-DCPAA
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No hexachlorophene was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No hexachlorophene was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A44 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JV6
2nd Reviewer: CL

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	SW N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	EB = 2 FB = FB_041411_19 (280-14645-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-04_040711_01	11	MB 280-61993/10	21		31	
2	EB_SH-04_040711	12		22		32	
3	HAR-26_040711_01	13		23		33	
4	RS-33_040711_01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1/A1D080511

Sample Identification

SH-04_040711_01
EB_SH-04_040711
HAR-26_040711_01
RS-33_040711_01
RD-36A_040711_01
RD-36B_040711_01
RD-36C_040711_01
RD-36D_040711_01

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_SH-04_040711 was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1/A1D080511	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-14379-1/A1D080511

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1/ A1D080511	SH-04_040711_01 EB_SH-04_040711 HAR-26_040711_01 RS-33_040711_01 RD-36A_040711_01 RD-36B_040711_01 RD-36C_040711_01 RD-36D_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14379-1/A1D080511

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14379-1/A1D080511

No Sample Data Qualified in this SDG

LDC #: 25382A71 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/1/11
SDG #: 280-14379-1/A1D080511 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	N	Not reqd.
VI.	Matrix spike/Matrix spike duplicates	N	Client spec
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	EB = 2 FB = FB_041411_19 (280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Water

+ 1	SH-04_040711_01	− 11	1098261 - MB	21		31	
− 2	EB_SH-04_040711	12		22		32	
− 3	HAR-26_040711_01	13		23		33	
+ 4	RS-33_040711_01	14		24		34	
− 5	RD-36A_040711_01	15		25		35	
− 6	RD-36B_040711_01	16		26		36	
− 7	RD-36C_040711_01	17		27		37	
− 8	RD-36D_040711_01	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-1

Sample Identification

RS-33_040711_01
RD-36A_040711_01
RD-36B_040711_01
RD-36C_040711_01
RD-36D_040711_01

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method.

No field blanks were identified in this SDG.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14379-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-1	RS-33_040711_01 RD-36A_040711_01 RD-36B_040711_01 RD-36C_040711_01 RD-36D_040711_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14379-1

No Sample Data Qualified in this SDG

LDC #: 25382A76 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JV
2nd Reviewer:

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	N	Not req'd.
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RS-33_040711_01	11	MB 280-61963/25	21		31	
2	RD-36A_040711_01	12		22		32	
3	RD-36B_040711_01	13		23		33	
4	RD-36C_040711_01	14		24		34	
5	RD-36D_040711_01	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 17, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25382:

SDG #	Fraction
280-14379-1/IUD0891 280-14432-1/IUD1055	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Formaldehyde, Hexachloroethane, Organophosphorus Pesticides, Herbicides, Hydrazines
280-14379-2	N-Nitrosodimethylamine
280-14437-1 280-14490-1/H1D130480 280-14530-1/H1D140421	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV — LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formal-dehyde (8315)		Hexachlor ophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14379-1 IUD0891	05/02/11	05/23/11	11	0	11	0	11	0	8	0	4	0	8	0	4	0	4	0	4	0	4	0	4	0	6	0	8	0	4	0	4	0	4	0		
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14432-1/ IUD1055	05/02/11	05/23/11	8	0	8	0	8	0	6	0	1	0	6	0	1	0	1	0	3	0	3	0	4	0	2	0	6	0	1	0	1	0	1	0		
Total	T/PG			19	0	19	0	19	0	14	0	5	0	18	0	5	0	5	0	7	0	7	0	8	0	8	0	14	0	5	0	5	0	5	0	0	163

Client Select IV — LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxins (8290)		Alk. (2320B)		NH_3-N (350.1)		Cl SO_4 (300.0)		F NO_3 (300.0)		CN- (9012A)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2-D)					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14379-1/ A1D080511	05/02/11	05/23/11	5	0	5	0	5	0	-	-	1	0	8	0	1	0	8	0	4	0	1	0	8	0	8	0	1	0	1	0	4	0				
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
C	280-14432-1/ IUD1055	05/02/11	05/23/11	4	0	4	0	4	0	-	-	3	0	6	0	3	0	7	0	1	0	3	0	7	0	7	0	3	0	3	0	1	0				
D	280-14437-1	05/02/11	05/23/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
E	280-14490-1/ H1D130480	05/02/11	05/23/11	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
F	280-14530-1/ H1D140421	05/02/11	05/23/11	-	-	-	-	-	-	8	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total	T/PG			9	0	9	0	9	0	15	0	4	0	14	0	4	0	15	0	5	0	4	0	15	0	15	0	4	0	4	0	5	0	0	0	0	131

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 7, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14379-2

Sample Identification

SH-04_040711_36
FB_SH-04_040711_19
RS-33_040711_36
FB_RS-33_040711_19

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Sample EB_SH-04_040711(from SDG 280-14379-1) was identified as an equipment blank. No N-Nitrosodimethylamine was found in this blank.

Samples FB_041411_19 (from SDG 280-14655-1), FB_SH-04_040711_19 and FB_RS-33_040711_19 were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14379-2	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SH-04_040711_01 (from SDG 280-14379-1) and SH-04_040711_36 and samples RS-33_040711_01 (from SDG 280-14379-1) and RS-33_040711_36 were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-04_040711_01	SH-04_040711_36			
N-Nitrosodimethylamine	0.084	0.077	9 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RS-33_040711_01	RS-33_040711_36			
N-Nitrosodimethylamine	0.084	0.077	11 (≤35)	-	-

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14379-2

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14379-2	SH-04_040711_36 FB_SH-04_040711_19 RS-33_040711_36 FB_RS-33_040711_19	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-14379-2

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14379-2

No Sample Data Qualified in this SDG

LDC #: 25382B2b **VALIDATION COMPLETENESS WORKSHEET** Date: 5/11/11
SDG #: 280-14379-2 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JV6
2nd Reviewer:

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/07/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D_1 = 1 + SH-04_040711-01 D_2 = 3 + RS-33_040711-01
XVII.	Field blanks	ND	FB = 2, 4 FB_041411_19 (from 280-14655-1) EB_SH-04_040711(280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-04_040711_36	11	MB 280-61693/1-A	21		31	
2	FB_SH-04_040711_19	12		22		32	
3	RS-33_040711_36	13		23		33	
4	FB_RS-33_040711_19	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:25382B2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MC
2nd Reviewer: [illegible]

METHOD: GC MS NDMA (EPA Method 1625)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	SH-04_040711_01	SH-04_040711_36		
NDMA	0.084	0.077	9	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	RS-33_040711_01	RS-33_040711_36		
NDMA	0.20	0.18	11	

V:\FIELD DUPLICATES\25382B2b.wpd

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 17, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25382:

SDG #	Fraction
280-14379-1/IUD0891 280-14432-1/IUD1055	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Formaldehyde, Hexachloroethane, Organophosphorus Pesticides, Herbicides, Hydrazines
280-14379-2	N-Nitrosodimethylamine
280-14437-1 280-14490-1/H1D130480 280-14530-1/H1D140421	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV

LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formal-dehyde (8315)		Hexachlor ophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14379-1 IUD0891	05/02/11	05/23/11	11	0	11	0	11	0	8	0	4	0	8	0	4	0	4	0	4	0	4	0	4	0	6	0	8	0	4	0	4	0	4	0		
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14432-1/ IUD1055	05/02/11	05/23/11	8	0	8	0	8	0	6	0	1	0	6	0	1	0	1	0	3	0	3	0	4	0	2	0	6	0	1	0	1	0	1	0		
Total	T/PG			19	0	19	0	19	0	14	0	5	0	18	0	5	0	5	0	7	0	7	0	8	0	8	0	14	0	5	0	5	0	5	0	0	163

Client Select IV

LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxins (8290)		Alk. (2320B)		NH_3-N (350.1)		Cl SO_4 (300.0)		F NO_3 (300.0)		CN- (9012A)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2-D)					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14379-1/ A1D080511	05/02/11	05/23/11	5	0	5	0	5	0	-	-	1	0	8	0	1	0	8	0	4	0	1	0	8	0	8	0	1	0	1	0	4	0				
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
C	280-14432-1/ IUD1055	05/02/11	05/23/11	4	0	4	0	4	0	-	-	3	0	6	0	3	0	7	0	1	0	3	0	7	0	7	0	3	0	3	0	1	0				
D	280-14437-1	05/02/11	05/23/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
E	280-14490-1/ H1D130480	05/02/11	05/23/11	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
F	280-14530-1/ H1D140421	05/02/11	05/23/11	-	-	-	-	-	-	8	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total	T/PG			9	0	9	0	9	0	15	0	4	0	14	0	4	0	15	0	5	0	4	0	15	0	15	0	4	0	4	0	5	0	0	0	0	131

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Volatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

RD-37_040811_01
TB_RD-37_040811
RD-39B_040811_01
RD-39B_040811_36
RD-51A_040811_01
SH-02_040811_01
SH-03_040811_01
TB_SH-03_040811
RD-37_040811_01MS
RD-37_040811_01MSD
SH-03_040811_01MS
SH-03_040811_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB_RD-37_040811 and TB_SH-03_040811 were identified as trip blanks. No volatile contaminants were found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No volatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D-62652/5,6 (SH-03_040811_01 TB_SH-03_040811 MB 280-62652/7)	Vinyl acetate	144 (63-124)	146 (63-124)	-	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-39B_040811_01 and RD-39B_040811_36 were identified as split samples. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RD-39B_040811_01	RD-39B_040811_36			
Trichloroethene	0.41	0.39	5 (≤35)	-	-

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	SH-03_040811_01 TB_SH-03_040811	Vinyl acetate	J (all detects)	P	Laboratory control samples (%R) (L)
280-14432-1	RD-37_040811_01 TB_RD-37_040811 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01 SH-02_040811_01 SH-03_040811_01 TB_SH-03_040811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Volatiles - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C1a
SDG #: 280-14432-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5/12/11
Page: 1 of 1
Reviewer: JVL
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	SW	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 3, 4
XVII.	Field blanks	ND	TB = 2, 8 FB = FB_041411_19 EB = ~~EB-SH-04_040711~~ (280-14379-1) (from 280-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-37_040811_01	11	SH-03_040811_01MS	21	MB 280-61615/6	31	(FFFF, GGGG)
2	TB_RD-37_040811	12	SH-03_040811_01MSD	22	MB 280-62652/7	32	
3	RD-39B_040811_01 D	13		23		33	
4	RD-39B_040811_36 D	14		24		34	
5	RD-51A_040811_01	15		25		35	
6	SH-02_040811_01	16		26		36	
7	SH-03_040811_01	17		27		37	
8	TB_SH-03_040811	18		28		38	
9	RD-37_040811_01MS	19		29		39	
10	RD-37_040811_01MSD	20		30		40	

VOCs + IPA = 1 - 5

VOCs = 6 *

VOCs App IX = 7, 8

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 25382 C1Q

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Reviewer: MV
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?
Y (N) N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	LCS/D-62652/5,6	HH	144 (63-124)	146 (63-124)	( )	7,8,MB 280-62652/7	J dets/p (L)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )	

LDC#:25382C1a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVC
2nd Reviewer:

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent only)
	3	4		
Trichloroethene	0.41	0.39	5	

V:\FIELD DUPLICATES\25382C1a.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: 1,4-Dioxane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

RD-37_040811_01
TB_RD-37_040811
RD-39B_040811_01
RD-39B_040811_36
RD-51A_040811_01
SH-02_040811_01
SH-03_040811_01
TB_SH-03_040811
RD-37_040811_01MS
RD-37_040811_01MSD
SH-03_040811_01MS
SH-03_040811_01MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B using Selected Ion Monitoring (SIM) for 1,4-Dioxane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,4-dioxane was found in the method blanks.

Samples TB_RD-37_040811 and TB_SH-03_040811 were identified as trip blanks. No 1,4-dioxane was found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,4-dioxane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,4-dioxane was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-37_040811_01MS/MSD (RD-37_040811_01)	1,4-Dioxane	151 (25-141)	-	-	J (all detects)	A
SH-03_040811_01MS/MSD (SH-03_040811_01)	1,4-Dioxane	174 (25-141)	175 (25-141)	-	J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-39B_040811_01 and RD-39B_040811_36 were identified as field duplicates. No 1,4-dioxane was detected in any of the samples.

Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	RD-37_040811_01 SH-03_040811_01	1,4-Dioxane	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
280-14432-1	RD-37_040811_01 TB_RD-37_040811 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01 SH-02_040811_01 SH-03_040811_01 TB_SH-03_040811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C1b **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1 Level V Page: 1 of 1
Laboratory: Test America Laboratories, Inc. Reviewer: JVC
2nd Reviewer: Q

METHOD: GC/MS 1,4-Dioxane (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 3.4
XVII.	Field blanks	ND	TB = 2 8 FB = FB_041411_19 EB = EB-SA-04-040711 (280-14374-1) (from 280-14655-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

+ 1	RD-37_040811_01	11	SH-03_040811_01MS	- 21	MB 280-61905/5	31	
- 2	TB_RD-37_040811	12	SH-03_040811_01MSD	22		32	
- 3	RD-39B_040811_01	13		23		33	
- 4	RD-39B_040811_36	14		24		34	
- 5	RD-51A_040811_01	15		25		35	
+ 6	SH-02_040811_01	16		26		36	
+ 7	SH-03_040811_01	17		27		37	
- 8	TB_SH-03_040811	18		28		38	
9	RD-37_040811_01MS	19		29		39	
10	RD-37_040811_01MSD	20		30		40	

LDC #: 25382 C15

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: VV6
2nd Reviewer: [signature]

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	9/10	1,4-Dioxane	151 (25-141)	( )	( )	1	J dets / A (Q)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
	11/12	1,4-Dioxane	174 (25-141)	175 (25-141)	( )	7	(Q)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: 1,2,3-Trichloropropane

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1/IUD1055

Sample Identification

RD-37_040811_01
TB_RD-37_040811
RD-39B_040811_01
RD-39B_040811_36
RD-51A_040811_01
SH-02_040811_01
SH-03_040811_01
TB_SH-03_040811
RD-37_040811_01MS
RD-37_040811_01MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 524.2 for 1,2,3-Trichloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2,3-trichloropropane was found in the method blanks.

Samples TB_RD-37_040811 and TB_SH-03_040811 were identified as trip blanks. No 1,2,3-trichloropropane was found in these blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2,3-trichloropropane was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No 1,2,3-trichloropropane was found in this blank.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Raw data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1/IUD1055	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-39B_040811_01 and RD-39B_040811_36 were identified as field duplicates. No 1,2,3-trichloropropane was detected in any of the samples.

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Data Qualification Summary - SDG 280-14432-1/IUD1055

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1/ IUD1055	RD-37_040811_01 TB_RD-37_040811 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01 SH-02_040811_01 SH-03_040811_01 TB_SH-03_040811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14432-1/IUD1055

No Sample Data Qualified in this SDG

Boeing SSFL GW 1st Qtr, 2011
1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 280-14432-1/IUD1055

No Sample Data Qualified in this SDG

LDC #: 25382C1c **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1/IUD1055 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer: CV

METHOD: GC/MS 1,2,3-Trichloropropane (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not req'd.
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 3, 4
XVII.	Field blanks	ND	TB = 2 8 FB = FB_041411_19 EB = EB_SH-04_040711 (280-14379-1) (280-14655-1)

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: Water

1	RD-37_040811_01	11	IID1636-BLK1	21		31	
2	TB_RD-37_040811	12		22		32	
3	RD-39B_040811_01 D	13		23		33	
4	RD-39B_040811_36 D	14		24		34	
5	RD-51A_040811_01	15		25		35	
6	SH-02_040811_01	16		26		36	
7	SH-03_040811_01	17		27		37	
8	TB_SH-03_040811	18		28		38	
9	RD-37_040811_01MS	19		29		39	
10	RD-37_040811_01MSD	20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Semivolatiles

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

RD-37_040811_01
RD-39B_040811_01
RD-39B_040811_36
RD-51A_040811_01
SH-02_040811_01
SH-03_040811_01
RD-37_040811_01MS
RD-37_040811_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MB 280-62099/1-A	4/13/11	Bis(2-ethylhexyl)phthalate	13.0 ug/L	RD-37_040811_01 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01 SH-03_040811_01

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
RD-51A_040811_01	Bis(2-ethylhexyl)phthalate	2.7 ug/L	10U ug/L

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No semivolatile contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No semivolatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-39B_040811_01 and RD-39B_040811_36 were identified as field duplicates. No semivolatiles were detected in any of the samples.

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	RD-37_040811_01 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01 SH-02_040811_01 SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P	Code
280-14432-1	RD-51A_040811_01	Bis(2-ethylhexyl)phthalate	10U ug/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C2a **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: NG
2nd Reviewer: Q

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 2, 3
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-37_040811_01	11	MB 280-62099/1-A	21		31	
2	RD-39B_040811_01 D	12		22		32	
3	RD-39B_040811_36 D	13		23		33	
4	RD-51A_040811_01	14		24		34	
5	SH-02_040811_01	15		25		35	
6	SH-03_040811_01	16		26		36	
7	RD-37_040811_01MS	17		27		37	
8	RD-37_040811_01MSD	18		28		38	
9		19		29		39	
10		20		30		40	

Phthalates + NB = 1-4
8270 App IX = 6
Anthracene + NB = 5

LDC #: 25382 C2a

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: DM
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 4/13/11 **Blank analysis date:** 4/18/11
Conc. units: ug/L Associated Samples: 1-4, 6 Code: B

Compound	Blank ID	Sample Identification							
MB 280-62099/1-A		4							
EEE	13.0		2.7/10 U						

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC Report# 25382C2b

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: N-Nitrosodimethylamine

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

RD-37_040811_01
RD-39B_040811_01
RD-39B_040811_36
RD-51A_040811_01
SH-02_040811_01
SH-03_040811_01
RD-37_040811_01MS
RD-37_040811_01MSD

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1625M for N-Nitrosodimethylamine.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No N-Nitrosodimethylamine was found in the method blanks.

Samples EB_SH-04_040711 (from SDG 280-14379-1) and EB_SH-03_04081 and EB_SH-02_040811 (both from SDG 280-14432-2) were identified as equipment blanks. No N-Nitrosodimethylamine was found in these blanks.

Samples FB_041411_19 (from SDG 280-14655-1) and FB_SH-02_040811_19 and FB_SH-03_040811_19 (both from SDG 280-14432-2) were identified as field blanks. No N-Nitrosodimethylamine was found in these blanks.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples RD-39B_040811_01 and RD-39B_040811_36, samples SH-02_040811_01 and SH-02_040811_36 (from SDG 280-14432-1), and samples SH-03_040811_01 and SH-03_040811_36 (from SDG 280-14432-1) were identified as field duplicates. No N-Nitrosodimethylamine was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-02_040811_01	SH-02_040811_36			
N-Nitrosodimethylamine	0.049	0.052	6 (≤35)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SH-03_040811_01	SH-03_040811_36			
N-Nitrosodimethylamine	0.030	0.066	75 (≤35)	NQ	-

NQ = One or both results were < 5x the reporting limit, therefore no data were qualified.

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	RD-37_040811_01 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01 SH-02_040811_01 SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
N-Nitrosodimethylamine - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C2b **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: SVG
2nd Reviewer: [illegible]

METHOD: GC/MS N-Nitrosodimethylamine (EPA Method 1625M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SWB	D_1 = 2, 3 D_2 = 5 + SH-02_040811_36 D_3 = 6 + SH-02-040811-36 (280-14432-1)
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) FB_SH-02_040811_19, FB_SH-03_040811_19 (280-14432-1) EB_SH-04_040711 (280-14379-1) EB-SH-03_040811_19 (280-14432-1) EB_SH_02_040811.

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1 RD-37_040811_01		11	MB 280-62133/1-A	21		31	
2 RD-39B_040811_01	D	12		22		32	
3 RD-39B_040811_36	D	13		23		33	
4 RD-51A_040811_01		14		24		34	
5 SH-02_040811_01		15		25		35	
6 SH-03_040811_01		16		26		36	
7 RD-37_040811_01MS		17		27		37	
8 RD-37_040811_01MSD		18		28		38	
9		19		29		39	
10		20		30		40	

LDC#:25382C2b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVB
2nd Reviewer:

METHOD: GC MS NDMA (EPA Method 1625M)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	SH-02_040811_01	SH-02_040811_36		
NDMA	0.049	0.052	6	

Compound	Concentration (ug/L)		(≤35%) RPD	Qualifications (Parent Only)
	SH-03_040811_01	SH-03_040811_36		
NDMA	0.030	0.066	75	NQ(<5XRL)

V:\FIELD DUPLICATES\25382C2b.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 8, 2011
LDC Report Date:	May 10, 2011
Matrix:	Water
Parameters:	Pentachlorophenol
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14432-1

Sample Identification

SH-03_040811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per a modification of EPA SW 846 Method 8270C for Pentachlorophenol.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No pentachlorophenol was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No pentachlorophenol was found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No pentachlorophenol was found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Pentachlorophenol - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Pentachlorophenol - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Pentachlorophenol - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C2c **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MG
2nd Reviewer: 9

METHOD: GC/MS Pentachlorophenol (EPA SW846 Method 8270C-~~LL~~)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-040340711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-03_040811_01	11	MB 280-61637/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 8, 2011
LDC Report Date:	May 10, 2011
Matrix:	Water
Parameters:	Chlorinated Pesticides
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14432-1

Sample Identification

SH-03_040811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No chlorinated pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No chlorinated pesticide contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C3a
SDG #: 280-14432-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5/12/11
Page: 1 of 1
Reviewer: JG
2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client Spec LCS/D
VIII.	Laboratory control samples	A	
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-03_040811_01	11	MB 280-61622/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 8, 2011
LDC Report Date:	May 10, 2011
Matrix:	Water
Parameters:	Polychlorinated Biphenyls
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14432-1

Sample Identification

SH-03_040811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyls were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No polychlorinated biphenyls were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No polychlorinated biphenyls were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C3b
SDG #: 280-14432-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5/12/11
Page: 1 of 1
Reviewer: JVG
2nd Reviewer: Q

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client spec
VIII.	Laboratory control samples	A	LCS 1D
IX.	Regional quality assurance and quality control	N	
X.	Florisil cartridge check	N	
XI.	GPC Calibration	N	
XII.	Target compound identification	N	
XIII.	Compound quantitation and reported CRQLs	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	N	
XVI.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-03_040811_01	11	MB 280-61622/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 12, 2011

Matrix: Water

Parameters: Metals

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

SH-02_040811_01
EB_SH-02_040811
SH-03_040811_01
SH-02_040811_01F
EB_SH-02_040811F
SH-03_040811_01F
SH-03_040811_01MS
SH-03_040811_01MSD
SH-02_040811_01FMS
SH-02_040811_01FMSD
SH-03_040811_01FMS
SH-03_040811_01FMSD

Samples appended with "F" were analyzed for dissolved metals

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 6020, and 7000 for Metals. The metals analyzed were Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, and Zinc.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

ICP-MS tune data were not reviewed for Level V.

III. Calibration

Calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Manganese	0.000320 mg/L	SH-02_040811_01 EB_SH-02_040811 SH-03_040811_01
PB (prep blank)	Calcium Magnesium Manganese Strontium	0.0663 mg/L 0.0268 mg/L 0.000790 mg/L 0.000790 mg/L	SH-02_040811_01F EB_SH-02_040811F SH-03_040811_01F
PB (prep blank)	Zinc	0.0126 mg/L	SH-02_040811_01F EB_SH-02_040811F
PB (prep blank)	Thallium Tin	0.0000389 mg/L 0.000340 mg/L	SH-03_040811_01
PB (prep blank)	Mercury Thallium Tin	0.0000340 mg/L 0.0000236 mg/L 0.000228 mg/L	SH-03_040811_01F

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-03_040811_01	Manganese Thallium Tin	0.0012 mg/L 0.000020 mg/L 0.00042 mg/L	0.0012U mg/L 0.000020U mg/L 0.00042U mg/L
SH-02_040811_01F	Manganese	0.00028 mg/L	0.00028U mg/L
EB_SH-02_040811F	Calcium	0.034 mg/L	0.034U mg/L
SH-03_040811_01F	Manganese Mercury Thallium Tin	0.00052 mg/L 0.000038 mg/L 0.000032 mg/L 0.00046 mg/L	0.00052U mg/L 0.000038U mg/L 0.000032U mg/L 0.00046U mg/L

Samples EB_SH-04_040711 and EB_SH-04_040711F (both from SDG 280-14739-1) and EB_SH-02_040811 and EB_SH-02_040811F were identified as equipment blanks. No metal contaminants were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Tin Mercury	0.00028 mg/L 0.000037 mg/L	SH-02_040811_01 SH-03_040811_01
EB_SH-04_040711F	4/7/11	Silver Tin Mercury	0.000018 mg/L 0.00030 mg/L 0.000034 mg/L	SH-02_040811_01F SH-03_040811_01F
EB_SH-02_040811	4/8/11	Calcium	0.044 mg/L	SH-02_040811_01
EB_SH-02_040811F	4/8/11	Calcium Sodium	0.034 mg/L 0.12 mg/L	SH-02_040811_01F

Samples FB_041411_19 and FB_041411_19F (both from SDG 250-14655-1) were identified as field blanks. No metal contaminants were found in these blanks with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	Iron	0.030 mg/L	SH-02_040811_01 SH-03_040811_01
FB_041411_19F	4/14/11	Iron Manganese Sodium Tin	0.082 mg/L 0.0012 mg/L 0.29 mg/L 0.00017 mg/L	SH-02_040811_01F SH-03_040811_01F

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-03_040811_01	Tin Mercury	0.00042 mg/L 0.000035 mg/L	0.00042U mg/L 0.000035U mg/L
SH-02_040811_01F	Manganese	0.00028 mg/L	0.00028U mg/L
SH-03_040811_01F	Silver Tin Mercury Manganese	0.000044 mg/L 0.00046 mg/L 0.000038 mg/L 0.00052 mg/L	0.000044U mg/L 0.00046U mg/L 0.000038U mg/L 0.00052U mg/L

V. ICP Interference Check Sample (ICS) Analysis

Interference check sample analysis data were not reviewed for Level V.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Internal Standards (ICP-MS)

Internal standard data were not reviewed for Level V.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution data were not reviewed for Level V.

XII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14432-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Metals - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14432-1	SH-02_040811_01 EB_SH-02_040811 SH-03_040811_01 SH-02_040811_01F EB_SH-02_040811F SH-03_040811_01F	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Metals - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14432-1	SH-03_040811_01	Manganese Thallium Tin	0.0012U mg/L 0.000020U mg/L 0.00042U mg/L	A	B
280-14432-1	SH-02_040811_01F	Manganese	0.00028U mg/L	A	B
280-14432-1	EB_SH-02_040811F	Calcium	0.034U mg/L	A	B
280-14432-1	SH-03_040811_01F	Manganese Mercury Thallium Tin	0.00052U mg/L 0.000038U mg/L 0.000032U mg/L 0.00046U mg/L	A	B

Boeing SSFL GW 2nd Qtr, 2011
Metals - Field Blank Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14432-1	SH-03_040811_01	Tin Mercury	0.00042U mg/L 0.000035U mg/L	A	F
280-14432-1	SH-02_040811_01F	Manganese	0.00028U mg/L	A	F
280-14432-1	SH-03_040811_01F	Silver Tin Mercury Manganese	0.000044U mg/L 0.00046U mg/L 0.000038U mg/L 0.00052U mg/L	A	F

MG

LDC #: 25382C4 **VALIDATION COMPLETENESS WORKSHEET** Date: 5-5-11
SDG #: 280-14432-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MG
2nd Reviewer:

METHOD: Metals (EPA SW 846 Method 6010B/6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-8-11
II.	ICP/MS Tune	N	
III.	Calibration	N	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	N	
VI.	Matrix Spike Analysis	A	MS/MSD
VII.	Duplicate Sample Analysis	N	
VIII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
IX.	Internal Standard (ICP-MS)	N	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	A N	
XII.	Sample Result Verification	N	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	SW	EB=2,5, EB-SH-04-040711, EB-SH-04-040711F } SDG: 280-14379-1

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

FB=FB_041411_19, FB=FB_041411_19F } SDG: 280-14655-

Validated Samples:

1	SH-02_040811_01	11	SH-03_040811_01FMS	21		31	
2	EB_SH-02_040811	12	SH-03_040811_01FMSD	22		32	
3	SH-03_040811_01	13		23		33	
4	SH-02_040811_01F	14		24		34	
5	EB_SH-02_040811F	15		25		35	
6	SH-03_040811_01F	16		26		36	
7	SH-03_040811_01MS	17		27		37	
8	SH-03_040811_01MSD	18		28		38	
9	SH-02_040811_01FMS	19		29		39	
10	SH-02_040811_01FMSD	20		30	PBW	40	

Notes: Samples appended with "F" were analyzed for dissolved metals

LDC #: 25382C4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1,2,4,5	W	Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (Sr)
3, 6		Al, (Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn), Mo, B, Si, CN; (Sr Sn)
QC 7→10		Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (Sr)
↓ 11, 12		Al, (Sb, As, Ba, Be, Cd), Ca, (Cr, Co, Cu), Fe, (Pb), Mg, Mn, Hg, (Ni), K, (Se, Ag), Na, (Tl, V, Zn), Mo, B, Si, CN; (Sn)
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;
Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, (Ca), Cr, Co, Cu, (Fe), Pb, (Mg), (Mn), Hg, Ni, (K), Se, Ag, (Na), Tl, V, (Zn), Mo, B, Si, CN; (Sr)
ICP-MS	↓	Al, (Sb, As, Ba, Be, Cd), Ca, (Cr, Co, Cu), Fe, (Pb), Mg, Mn, Hg, (Ni), K, (Se, Ag), Na, (Tl, V, Zn), Mo, B, Si, CN; (Sn)
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN;

Comments: (Mercury by CVAA if performed)

LDC #: 25382C4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1-3 Qual: U (B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	3									
Mn		0.000320		0.0016	0.0012									

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 4-6 Qual: U (B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	4	5	6							
Ca		0.0663		0.3315		0.034								
Mg		0.0268		0.134										
Mn		0.000790		0.00395	0.00028		0.00052							
Sr		0.000790		0.00395										

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 4,5 (ND)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Zn		0.0126		0.063										

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 3 Qual: U (B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	3									
Tl		0.0000389		0.0001945	0.000020									
Sn		0.000340		0.0017	0.00042									

LDC #: 25382C4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: MG
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 6 Qual: U (B)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (mg/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	6									
Hg		0.0000340		0.00017	0.000038									
Tl		0.0000236		0.000118	0.000032									
Sn		0.000228		0.00114	0.00046									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 25382C4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

(Y) N N/A Were field blanks identified in this SDG?

(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 4/7/11 Soil factor applied NA Qual: U (F)

Field blank type: (circle one) Field Blank / Rinsate / (Other:) EB Associated Samples: 1, 3 (Sn Hg not analyzed for #1)

Analyte	Blank ID	Sample Identification										
	EB_SH-04_040711	Action Level	3									
Sn	0.00028	0.0014	0.00042									
Hg	0.000037	0.000185	0.000035									

Blank units: mg/L **Associated sample units:** mg/L

Sampling date: 4/7/11 Soil factor applied NA Qual: U (F)

Field blank type: (circle one) Field Blank / Rinsate / (Other:) EB Associated Samples: 4, 6 (Ag, Sn Hg not analyzed for #4)

Analyte	Blank ID	Sample Identification										
	EB_SH-04_040711F	Action Level	6									
Ag	0.000018	0.00009	0.000044									
Sn	0.00030	0.0015	0.00046									
Hg	0.000034	0.00017	0.000038									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25382C4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)
(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks?
Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/8/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / (Other) EB Associated Samples: 1 (>5x)

Analyte	Blank ID	Sample Identification										
	2	Action Level	No Qual's.									
Ca	0.044	0.22										

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/8/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / (Other) EB Associated Samples: 4 (>5x)

Analyte	Blank ID	Sample Identification										
	5	Action Level	No Qual's.									
Ca	0.034	0.17										
Na	0.12	0.6										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25382C4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: _____

METHOD: Trace Metals (EPA SW846 6010B/7000)
(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks?
Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) (Field Blank) / Rinsate / Other: _____ Associated Samples: 1, 3 (ND)

Analyte	Blank ID	Sample Identification										
	FB_041411_19	Action Level	No Qual's.									
Fe	0.030	0.15										

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) (Field Blank) / Rinsate / Other: _____ Associated Samples: 4, 6 Qual: U (F) (Not analyzed for Sn in #4)

Analyte	Blank ID	Sample Identification										
	FB_041411_19F	Action Level	4	6								
Fe	0.082	0.41										
Mn	0.0012	0.006	0.00028	0.00052								
Na	0.29	1.45										
Sn	0.00017	0.00085		0.00046								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 8, 2011
LDC Report Date:	May 10, 2011
Matrix:	Water
Parameters:	Herbicides
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14432-1

Sample Identification

SH-03_040811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8151A for Herbicides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No herbicide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No herbicide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No herbicide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/(Matrix Spike) Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Herbicides - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C5 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: NG
2nd Reviewer: A

METHOD: GC Herbicides (EPA SW 846 Method 8151A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/6&8/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	SH-03_040811_01	11	MB 280-61806/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: 2,4,5-T ; 2,4-D ; Dinoseb ; 2,4,5-TP

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 12, 2011

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

RD-37_040811_01
RD-39B_040811_01
RD-39B_040811_36
RD-51A_040811_01
SH-02_040811_01
EB_SH-02_040811
SH-03_040811_01
RD-37_040811_01MS
RD-37_040811_01MSD
RD-37_040811_01DUP
SH-02_040811_01DUP
SH-03_040811_01DUP

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Standard Method 2320B for Alkalinity, EPA Method 350.1 for Ammonia as Nitrogen, Standard Method 2510B for Specific Conductance, EPA Method 300.0 for Chloride, Fluoride, Nitrate, and Sulfate, EPA SW 846 Method 9012A for Cyanide, EPA Method 314.0 for Perchlorate, EPA SW 846 Method 9040B for pH, Standard Method 4500-S2-D for Sulfide, Standard Method 2540C for Total Dissolved Solids, and EPA Method 180.1 for Turbidity.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

Raw data were not reviewed for this SDG. The review was based on QC data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

Samples EB_SH-04_040711 (from SDG 280-14379-1) and EB_SH-02_040811 were identified as equipment blanks. No contaminant concentrations were found in these blanks with the following exceptions:

Equipment Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
EB_SH-04_040711	4/7/11	Fluoride Nitrate Ammonia as N Cyanide pH	0.11 mg/L 0.19 mg/L 0.091 mg/L 0.0020 mg/L 5.83 units	SH-02_040811_01 SH-03_040811_01
EB_SH-02_040811	4/8/11	Total dissolved solids pH Specific conductance	7.0 mg/L 5.90 units 27 umhos/cm	SH-02_040811_01

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No contaminant concentrations were found in this blank with the following exceptions:

Field Blank ID	Sampling Date	Analyte	Concentration	Associated Samples
FB_041411_19	4/14/11	pH	5.81 units	SH-02_040811_01 SH-03_040811_01

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SH-02_040811_01	Ammonia as N	0.057 mg/L	0.057U mg/L
SH-03_040811_01	Ammonia as N Cyanide	0.057 mg/L 0.0028 mg/L	0.057U mg/L 0.0028U mg/L

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Sample Result Verification

All analytes reported below the RL and above the MDL were qualified as follows:

Sample	Analyte	Flag	A or P
All samples in SDG 280-14432-1	All analytes reported below the RL and above the MDL.	J (all detects)	A

Raw data were not reviewed for this SDG.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples RD-39B_040811_01 and RD-39B_040811_36 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD (Limits)	Flag	A or P
	RD-39B_040811_01	RD-39B_040811_36			
Fluoride	0.13 mg/L	0.11 mg/L	17 (≤35)	-	-
pH	8.31 units	8.31 units	0 (≤35)	-	-

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
280-14432-1	RD-37_040811_01 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01 SH-02_040811_01 EB_SH-02_040811 SH-03_040811_01	All analytes reported below the RL and above the MDL.	J (all detects)	A	Sample result verification (TR)

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Wet Chemistry - Field Blank Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
280-14432-1	SH-02_040811_01	Ammonia as N	0.057U mg/L	A	F
280-14432-1	SH-03_040811_01	Ammonia as N Cyanide	0.057U mg/L 0.0028U mg/L	A	F

LDC #: 25382C6 **VALIDATION COMPLETENESS WORKSHEET** Date: 5-5-11

SDG #: 280-14432-1 Level V Page: 1 of 1

Laboratory: Test America Inc. Reviewer: MG

9m A 2nd Reviewer: ✓

METHOD: (Analyte) Alkalinity (SM2320B), Ammonia-N (EPA Method 350.1), Conductivity (SM2510B), Chloride, Fluoride, Nitrate-~~N~~, Sulfate (EPA Method 300.0), Cyanide (EPA SW846 Method 9012A), Perchlorate (EPA Method 314.0), pH (EPA SW846 Method 9040B), Sulfide (SM4500-S2-D), TDS (~~SM2440C~~), Turbidity (EPA Method 180.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets. TDS (SM 2540C)

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4-8-11
II	Initial calibration	N	
III.	Calibration verification	N	
IV	Blanks	A	
V	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
VI.	Duplicates	A	DUP
VII.	Laboratory control samples	A	LCS/LCSD
VIII.	Sample result verification	N	
IX.	Overall assessment of data	A	
X.	Field duplicates	SW	D = 2+3
XI	Field blanks	SW	EB = 6, EB_SH-04_040711 (SDG: 280-14379-1) FB = FB_041411_19 (SDG: 280-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: all water

1	RD-37_040811_01	11	SH-02_040811_01DUP	21		31	
2	RD-39B_040811_01	12	SH-03_040811_01DUP	22		32	
3	RD-39B_040811_36	13		23		33	
4	RD-51A_040811_01	14		24		34	
5	SH-02_040811_01	15		25		35	
6	EB_SH-02_040811	16		26		36	
7	SH-03_040811_01	17		27		37	
8	RD-37_040811_01MS	18		28		38	
9	RD-37_040811_01MSD	19		29	PBW1	39	
10	RD-37_040811_01DUP	20		30	PBW2	40	

Notes:

LDC #: 25382C6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: MG
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1→4	W	(pH) TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4) ____ ____
5	↓	(pH) (TDS) Cl (F) (NO3) NO2 (SO4) PO4 (ALK) CN- (NH3) TKN TOC CR6+ (ClO4) (Turb) (Cond)
6		(pH) (TDS) Cl (F) (NO3) NO2 (SO4) PO4 (ALK) CN- NH3 TKN TOC CR6+ (ClO4) (Turb) (Cond)
7		(pH) (TDS) Cl (F) (NO3) NO2 (SO4) PO4 (ALK) (CN) (NH3) TKN TOC CR6+ (ClO4) (Turb) (Cond) (S)
QC 8, 9		pH TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- (NH3) TKN TOC CR6+ (ClO4) ____ ____
11		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 (Turb) (Cond)
12		pH (TDS) Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ (Cond)
10	↓	(pH) TDS Cl (F) (NO3) NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ (ClO4) ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4

LDC #: 25382C6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover

(Y) N N/A Were field blanks identified in this SDG?

(Y) N N/A Were target analytes detected in the field blanks?

Blank units: mg/L **Associated sample units: mg/L**

Sampling date: 4/7/11 Soil factor applied NA Qual: U (F)

Field blank type: (circle one) Field Blank / Rinsate / (Other) EB Associated Samples: 5, 7 (CN not analyzed for #5)

Analyte	Blank ID	Action Limit	Sample Identification							
	EB_SH-04_040711		5	7						
F	0.11	0.55								
NO3	0.19	0.95								
NH3-N	0.091	0.455	0.057	0.057						
CN	0.0020	0.01		0.0028						
pH (pH units)	5.83									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25382C6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks?
Blank units: see below **Associated sample units: see below**
Sampling date: 4/8/11 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / (Other:) EB Associated Samples: 5 (>5x)

Analyte	Blank ID	Action Limit	Sample Identification							
	6		No Qual's.							
TDS (mg/L)	7.0	35								
pH (pH units)	5.90									
Specific Conductance (umhos/cm)	27	135								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 25382C6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target analytes detected in the field blanks?
Blank units: pH units **Associated sample units: pH units**
Sampling date: 4/14/11 Soil factor applied NA
Field blank type: (circle one) (Field Blank) Rinsate / Other: Associated Samples: 5, 7

Analyte	Blank ID	Action Limit	Sample Identification							
	6		No Qual.							
pH	5.81									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Blank ID
FB_041411_19

LDC# 25382C6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer:

Inorganics, Method See Cover

(Y)N NA Were field duplicate pairs identified in this SDG?
(Y)N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/L)		RPD (≤35)	
	2	3		
Fluoride	0.13	0.11	17	
pH (pH units)	8.31	8.31	0	

V:\FIELD DUPLICATES\FD_inorganic\25382C6.WPD

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 12, 2011

Matrix: Water

Parameters: Diesel Range Organics

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

RD-37_040811_01
RD-39B_040811_01
RD-39B_040811_36
RD-51A_040811_01
RD-37_040811_01MS
RD-37_040811_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Oklahoma Department of Environmental Quality Method for Diesel Range Organics.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic contaminants were found in the method blanks.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples RD-39B_040811_01 and RD-39B_040811_36 were identified as field duplicates. No diesel range organics were detected in any of the samples.

Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	RD-37_040811_01 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Diesel Range Organics - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C8 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC Diesel Range Organics (Oklahoma Department of Environmental Quality)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 2, 3
XIII.	Field blanks	N ~~ND~~	~~FB = FB_041411_19~~ (280-14655-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-37_040811_01	11	MB 280-61629/1-A	21		31	
2	RD-39B_040811_01 D	12		22		32	
3	RD-39B_040811_36 D	13		23		33	
4	RD-51A_040811_01	14		24		34	
5	RD-37_040811_01MS	15		25		35	
6	RD-37_040811_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 8, 2011
LDC Report Date:	May 10, 2011
Matrix:	Water
Parameters:	1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14432-1

Sample Identification

SH-03_040811_01
TB_SH-03_040811

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 504.1 for 1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No 1,2-dibromoethane or 1,2-dibromo-3-chloropropane was found in the method blanks.

Sample TB_SH-03_040811 was identified as a trip blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloroproane was found in this blank.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloroproane was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No 1,2-dibromoethane or 1,2-dibromo-3-chloroproane was found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	SH-03_040811_01 TB_SH-03_040811	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
1,2-Dibromoethane & 1,2-Dibromo-3-chloropropane - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C10 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVL
2nd Reviewer: ✓

METHOD: GC 1,2-Dibromomethane & 1,2-Dibromo-3-chloropropane (EPA Method 504.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	A	
VI.	Matrix spike/Matrix spike duplicates	N	client spec
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	TB = 2 FB = FB_041411_19 EB = EB-SH04_040711 (280-14655-1) (280-14374-EB)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-03_040811_01	11	MB 280-62460/4-A	21		31	
2	TB_SH-03_040811	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 8, 2011
LDC Report Date:	May 10, 2011
Matrix:	Water
Parameters:	Organophosphorus Pesticides
Validation Level:	Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14432-1

Sample Identification

SH-03_040811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8141A for Organophosphorus Pesticides.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No organophosphorus pesticide contaminants were found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No organophosphorus pesticide contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No organophosphorus pesticide contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
SH-03_040811_01	1 2	Triphenyl phosphate Triphenyl phosphate	172 (60-154) 188 (60-154)	All TCL compounds	J (all detects)	P

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	SH-03_040811_01	All TCL compounds	J (all detects)	P	Surrogate spikes (%R) (S)
280-14432-1	SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Organophosphorus Pesticides - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C17
SDG #: 280-14432-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5/12/11
Page: 1 of 1
Reviewer: VC
2nd Reviewer: [illegible]

METHOD: GC Organophosphorus (EPA SW 846 Method 8141A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec.
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	N	
XIII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

Water

1	SH-03_040811_01	11	MB 280-61938/1-A	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25382 C17

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JV6
2nd Reviewer: [signature]

METHOD: ✓ GC ___ HPLC

Are surrogates required by the method? Yes ✓ or No ___.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were surrogates spiked into all samples and blanks?

Y (N) N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	1	Col. 1	X	172 (60-154)	J dets / P (S)
		Col. 2	↓	188 (↓)	↓ ↓
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	1-Chlorooctadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-DCPAA
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Hexachlorophene

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

SH-03_040811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8321A for Hexachlorophene.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No hexachlorophene was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No hexachlorophene was found in this blank.

Sample FB_041411_19 (280-14655-1) was identified as a field blank. No hexachlorophene was found in this blank.

VI. Surrogate Spikes

Surrogates were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Level V.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Hexachlorophene - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C44 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: JVG
2nd Reviewer: Q

METHOD: LC/MS Hexachlorophene (EPA SW 846 Method 8321A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration/ICV	N	
V.	Blanks	A	
VI.	Surrogate spikes	N	Not reqd.
VII.	Matrix spike/Matrix spike duplicates	N	Client spec
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	SH-03_040811_01	T1	MB 280-61993/10	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Formaldehyde

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1/A1D090421

Sample Identification

RD-37_040811_01
RD-39B_040811_01
RD-39B_040811_36
RD-51A_040811_01
SH-02_040811_01
SH-03_040811_01
RD-37_040811_01MS

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315 for Formaldehyde.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Sample EB_SH-04_040711 (from SDG 280-14379-1) was identified as an equipment blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14655-1) was identified as a field blank. No polynuclear aromatic hydrocarbon contaminants were found in this blank.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

The laboratory has indicated that there were no and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1/A1D090421	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples RD-39B_040811_01 and RD-39B_040811_36 were identified as field duplicates. No formaldehyde was detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flags	A or P
	RD-39B_040811_01	RD-39B_040811_36			
Formaldehyde	20	18	11 (≤35)	-	-

Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Data Qualification Summary - SDG 280-14432-1/A1D090421

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1/ A1D090421	RD-37_040811_01 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01 SH-02_040811_01 SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG 280-14432-1/A1D090421

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Formaldehyde - Field Blank Data Qualification Summary - SDG 280-14432-1/A1D090421

No Sample Data Qualified in this SDG

LDC #: 25382C71 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/11
SDG #: 280-14432-1/A1D090421 Level V Page: 1 of 1
Laboratory: Test America, Inc. Reviewer: MC
2nd Reviewer: Q

METHOD: HPLC Formaldehyde (EPA SW846 Method 8315)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	N	Not reqd.
VI.	Matrix spike/Matrix spike duplicates	A	MS only
VII.	Laboratory control samples	A	LCS
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	SW	D = 2, 3
XIII.	Field blanks	ND	FB = FB_041411_19 (280-14655-1) EB = EB_SH-04_040711 (280-14379-1)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-37_040811_01	11	1099058-B1lc1	21		31	
2	RD-39B_040811_01 D	12		22		32	
3	RD-39B_040811_36 D	13		23		33	
4	RD-51A_040811_01	14		24		34	
5	SH-02_040811_01	15		25		35	
6	SH-03_040811_01	16		26		36	
7	RD-37_040811_01MS	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC#:25382C71

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JV6
2nd Reviewer:

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		(≤35) RPD	Qualifications Parent only)
	2	3		
Formaldehyde	20	18	11	

V:\FIELD DUPLICATES\24989O71.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing SSFL GW 2nd Qtr, 2011

Collection Date: April 8, 2011

LDC Report Date: May 10, 2011

Matrix: Water

Parameters: Hydrazines

Validation Level: Level V

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-14432-1

Sample Identification

RD-37_040811_01
RD-39B_040811_01
RD-39B_040811_36
RD-51A_040811_01
RD-37_040811_01MS
RD-37_040811_01MSD

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method DVWC-0077 for Hydrazines.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical or advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration data were not reviewed for Level V.

III. Calibration Verification

Calibration verification data were not reviewed for Level V.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hydrazine contaminants were found in the method.

V. Surrogate Recovery

Surrogates were not required by the method.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
RD-37_040811_01MS/MSD (RD-37_040811_01)	1,1-Dimethylhydrazine Hydrazine	- -	- -	47 (≤30) 51 (≤30)	J (all detects) J (all detects)	A

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

Raw data were not reviewed for this SDG.

IX. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14432-1	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

X. System Performance

Raw data were not reviewed for this SDG.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

Samples RD-39B_040811_01 and RD-39B_040811_36 were identified as field duplicates. No hydrazines were detected in any of the samples.

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Data Qualification Summary - SDG 280-14432-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14432-1	RD-37_040811_01	1,1-Dimethylhydrazine Hydrazine	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD) (Q)
280-14432-1	RD-37_040811_01 RD-39B_040811_01 RD-39B_040811_36 RD-51A_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Laboratory Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Hydrazines - Field Blank Data Qualification Summary - SDG 280-14432-1

No Sample Data Qualified in this SDG

LDC #: 25382C76
SDG #: 280-14432-1
Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level V

Date: 5/12/11
Page: 1 of 1
Reviewer: NG
2nd Reviewer: [signature]

METHOD: HPLC Hydrazines (Method DVWC-0077)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/6&8/11
II	Initial calibration	N	
III.	Calibration verification/ICV	N	
IV.	Blanks	A	
V	Surrogate recovery	N	Not reqd.
VI.	Matrix spike/Matrix spike duplicates	SW	
VII.	Laboratory control samples	A	LCS/D
VIII.	Target compound identification	N	
IX.	Compound Quantitation and CRQLs	N	
X.	System Performance	N	
XI.	Overall assessment of data	A	
XII.	Field duplicates	ND	D = 2, 3
XIII.	Field blanks	~~N~~ ND	~~FB = FB_040411_19 (280-14655-1)~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	RD-37_040811_01	11	MB 280-61963/25	21		31	
2	RD-39B_040811_01 D	12		22		32	
3	RD-39B_040811_36 D	13		23		33	
4	RD-51A_040811_01	14		24		34	
5	RD-37_040811_01MS	15		25		35	
6	RD-37_040811_01MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 25382 C76

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: [illegible]
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	A	B	Parameter C
All	W	Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine
		Hydrazine	1,1-Dimethylhydrazine	Monomethyl Hydrazine

Comments: _____

LDC #: 25382 C76

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: ✓ **GC** ___ **HPLC**

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
(Y) N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
Y (N) N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	5/7	B	( )	( )	47 (30)	1	J dets /A (Q)
		A	( )	( )	51 (↓)	↓	↓
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 17, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25382:

SDG #	Fraction
280-14379-1/IUD0891 280-14432-1/IUD1055	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Formaldehyde, Hexachloroethane, Organophosphorus Pesticides, Herbicides, Hydrazines
280-14379-2	N-Nitrosodimethylamine
280-14437-1 280-14490-1/H1D130480 280-14530-1/H1D140421	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Client Select IV

LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		1,4-Dioxane 8260B-S		1,2,3-TCP (524.2)		SVOA (8270C)		PCP (8270C -LL)		NDMA (1625)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		Diss. Metals (SW846)		DRO (OK-DEQ)		EDB (504.1)		Formal-dehyde (8315)		Hexachlor ophene (8321A)		OPHS Pest. (8141A)		Herbs (8151A)			
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14379-1 IUD0891	05/02/11	05/23/11	11	0	11	0	11	0	8	0	4	0	8	0	4	0	4	0	4	0	4	0	4	0	6	0	8	0	4	0	4	0	4	0		
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	4	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C	280-14432-1/ IUD1055	05/02/11	05/23/11	8	0	8	0	8	0	6	0	1	0	6	0	1	0	1	0	3	0	3	0	4	0	2	0	6	0	1	0	1	0	1	0		
Total	T/PG			19	0	19	0	19	0	14	0	5	0	18	0	5	0	5	0	7	0	7	0	8	0	8	0	14	0	5	0	5	0	5	0	0	163

Client Select IV

LDC #25382 (MWH Americas, Inc.-Farmington Hills, MI / Boeing SSFL GW 2nd Qtr)

LDC	SDG#	DATE REC'D	(3) DATE DUE	1,1-DMH (DVWC 0077)		MMH (DVWC 0077)		Hydra-zine (DVWC)		Dioxins (8290)		Alk. (2320B)		NH_3-N (350.1)		Cl SO_4 (300.0)		F NO_3 (300.0)		CN- (9012A)		Cond. (2510B)		CLO_4 (314.0)		pH (9040B)		Turb. (180.1)		TDS (2540C)		S= (4500 -S2-D)					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-14379-1/ A1D080511	05/02/11	05/23/11	5	0	5	0	5	0	-	-	1	0	8	0	1	0	8	0	4	0	1	0	8	0	8	0	1	0	1	0	4	0				
B	280-14379-2	05/02/11	05/23/11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
C	280-14432-1/ IUD1055	05/02/11	05/23/11	4	0	4	0	4	0	-	-	3	0	6	0	3	0	7	0	1	0	3	0	7	0	7	0	3	0	3	0	1	0				
D	280-14437-1	05/02/11	05/23/11	-	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
E	280-14490-1/ H1D130480	05/02/11	05/23/11	-	-	-	-	-	-	6	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
F	280-14530-1/ H1D140421	05/02/11	05/23/11	-	-	-	-	-	-	8	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total	T/PG			9	0	9	0	9	0	15	0	4	0	14	0	4	0	15	0	5	0	4	0	15	0	15	0	4	0	4	0	5	0	0	0	0	131

Shaded cells indicate Level IV validation (all other cells are Level V validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Boeing SSFL GW 2nd Qtr, 2011
Collection Date:	April 8, 2011
LDC Report Date:	May 11, 2011
Matrix:	Water
Parameters:	Dioxins/Dibenzofurans
Validation Level:	EPA Level V
Laboratory:	TestAmerica, Inc.
Sample Delivery Group (SDG):	280-14437-1/H1D120409

Sample Identification

SH-03_040811_01

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8290 for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit (March 2009, Revision 4), the Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County, CA (April 2010), the Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1 (December 2009), the Regulated Unit Water Quality Sampling and Analysis Plan, Area II, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County, CA (April 2010), and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance check data were not reviewed for Level V.

III. Initial Calibration

Initial calibration data were not reviewed for Level V.

IV. Routine Calibration (Continuing)

Calibration verification data were not reviewed for Level V.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound	Concentration	Associated Samples
1108103-MB	4/18/11	OCDD	36 pg/L	All samples in SDG 280-14437-1/H1D120409

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

Sample EB_SH-04_040711 (from 280-14402-1/H1D090407) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

Sample FB_041411_19 (from SDG 280-14659-1) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found in this blank.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

Internal standards data were not reviewed for Level V.

X. Target Compound Identifications

Raw data were not reviewed for this SDG.

XI. Compound Quantitation and CRQLs

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 280-14437-1/H1D120409	All compounds reported below the RL.	J (all detects)	A

Raw data were not reviewed for this SDG.

XII. System Performance

Raw data were not reviewed for this SDG.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Data Qualification Summary - SDG 280-14437-1/H1D120409

SDG	Sample	Compound	Flag	A or P	Reason (Code)
280-14437-1/ H1D120409	SH-03_040811_01	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs (TR)

Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG 280-14437-1/H1D120409

No Sample Data Qualified in this SDG

Boeing SSFL GW 2nd Qtr, 2011
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG 280-14437-1/H1D120409

No Sample Data Qualified in this SDG

LDC #: 25382D21 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/10/11

SDG #: 280-14437-1/H1D120409 Level V Page: 1 of 1

Laboratory: Test America Inc. Reviewer: SW

2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/08/11
II.	HRGC/HRMS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Routine calibration/ICV	N	
V.	Blanks	SW	
VI.	Matrix spike/Matrix spike duplicates	N	Client Spec
VII.	Laboratory control samples	A	LCS
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	N	
X.	Target compound identifications	N	
XI.	Compound quantitation and CRQLs	N	
XII.	System performance	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	ND	FB = FB_041411_19 (280-14659-1) EB SH-04_040711 (280-14402-1/H1D090407)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SH-03_040811_01	11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes:_____

LDC #: 25382D21

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA SW 846 Method 8290)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?
Y N N/A Was the method blank contaminated?

Blank extraction date: 4/18//11 **Blank analysis date:** 4/21/11 **Associated samples:** All
Conc. units: pg/L

Compound	Blank ID	Sample Identification					
[redacted]	1108103-MB	1					
G. OCDD	36	600					

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

MWH Americas, Inc.
618 Michillinda Ave. Suite 200
Arcadia, CA 91007
ATTN: Mr. Steve Reiners

May 17, 2011

SUBJECT: Boeing SSFL GW 2nd Qtr, 2011, Data Validation

Dear Mr. Reiners,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on May 2, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 25382:

SDG #	Fraction
280-14379-1/IUD0891 280-14432-1/IUD1055	Volatiles, 1,4-Dioxane, 1,2,3-Trichloropropane, Semivolatiles, Pentachlorophenol, N-Nitrosodimethylamine, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Wet Chemistry, Diesel Range Organics, Ethylene Dibromide, Formaldehyde, Hexachloroethane, Organophosphorus Pesticides, Herbicides, Hydrazines
280-14379-2	N-Nitrosodimethylamine
280-14437-1 280-14490-1/H1D130480 280-14530-1/H1D140421	Dioxins/Dibenzofurans

The data validation was performed under EPA Level V guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, Santa Susana Field Laboratory (SSFL) RCRA Facility Investigation Surficial Media Operable Unit, March 2009, Rev. 4
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-03-02, Santa Susana Field Laboratory, Ventura County CA, April 2010
- Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, CA, Revision 1, December 2009
- Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-03, Santa Susana Field Laboratory, Ventura County CA, April 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- USEPA, Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Diobenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist