DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: 187086H

Prepared by

MEC^{X}, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.002
Sample Delivery Group:	187086H
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	6
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
FSBS0086S01	187086003	N/A	Soil	5/17/2007 9:12:00 AM	314.0-DI WET
FSBS0086S02	187086004	N/A	Soil	5/17/2007 9:17:00 AM	314.0-DI WET
FSBS0087S01	187086005	N/A	Soil	5/17/2007 10:25:00 AM	314.0-DI WET
FSBS0087S02	187086006	N/A	Soil	5/17/2007 10:31:00 AM	314.0-DI WET
FSBS0094S01	187086001	N/A	Soil	5/16/2007 1:21:00 PM	314.0-DI WET
FSBS0094S02	187086002	N/A	Soil	5/16/2007 1:26:00 PM	314.0-DI WET

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: June 27, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: The recovery was within the method-established QC limits of 85-115%.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on FSBS0094S02. The RPD was within the method-established control limit of ≤15%.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on a sample in this SDG.

- Sample Result Verification: The sample results reported on the Form I were verified against the raw data. No transcription errors or calculation errors were noted. A confirmation spike was performed on FSBS0094S02. The recovery was within the method-established control limit of 80-120%. Sample FSBS0094S01 was analyzed twice to confirm the perchlorate detect. The RPD between the analyses was 45%. Due to this RPD and the lack of a confirmation spike, the reviewer qualified the perchlorate detect in FSBS0094S01 as estimated, "J." Reported nondetects are valid to the reporting limit.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MECx. LLC
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: June 12, 2007

Contact: Ms. Elizabeth Wessling, MECx
Project: **SSFL Group 8 Hastings Data Gap Sampling**

Client Sample ID:	FSBS0094S01	Project:	SSFL00507
Sample ID:	187086001	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	16-MAY-07 13:21		
Receive Date:	17-MAY-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
SSFL EPA 314.0 Perchlorate with Leaching										
Perchlorate	J/*III	5.18	1.14	4.00	ug/L	1	MAR106/11/07	1209	639829	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MECx, LLC
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: June 12, 2007

Contact: Ms. Elizabeth Wessling, MECx
Project: **SSFL Group 8 Hastings Data Gap Sampling**

Client Sample ID:	FSBS0094S02	Project:	SSFL00507
Sample ID:	187086002	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	16-MAY-07 13:26		
Receive Date:	17-MAY-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
SSFL EPA 314.0 Perchlorate with Leaching										
Perchlorate	U	4.00	1.14	4.00	ug/L	1	MAR1 06/08/07	1921	639829	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL U

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MECx, LLC
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: June 12, 2007

Contact: Ms. Elizabeth Wessling, MECx
Project: **SSFL Group 8 Hastings Data Gap Sampling**

Client Sample ID:	FSBS0086S01	Project:	SSFL00507
Sample ID:	187086003	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	17-MAY-07 09:12		
Receive Date:	18-MAY-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
SSFL EPA 314.0 Perchlorate with Leaching										
Perchlorate U	U	4.00	1.14	4.00	ug/L	1	MAR1 06/08/07	2006	639829	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MECx, LLC
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: June 12, 2007

Contact: Ms. Elizabeth Wessling, MECx
Project: **SSFL Group 8 Hastings Data Gap Sampling**

Client Sample ID:	FSBS0086S02	Project:	SSFL00507
Sample ID:	187086004	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	17-MAY-07 09:17		
Receive Date:	18-MAY-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
SSFL EPA 314.0 Perchlorate with Leaching										
Perchlorate	U	4.00	1.14	4.00	ug/L	1	MAR1 06/08/07	2021	639829	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MECx, LLC
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: June 12, 2007

Contact: Ms. Elizabeth Wessling, MECx
Project: **SSFL Group 8 Hastings Data Gap Sampling**

Client Sample ID:	FSBS0087S01	Project:	SSFL00507
Sample ID:	187086005	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	17-MAY-07 10:25		
Receive Date:	18-MAY-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
SSFL EPA 314.0 Perchlorate with Leaching										
Perchlorate	U	4.00	1.14	4.00	ug/L	1	MAR1 06/08/07	2036	639829	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MECx, LLC
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: June 12, 2007

Contact: Ms. Elizabeth Wessling, MECx
Project: **SSFL Group 8 Hastings Data Gap Sampling**

Client Sample ID:	FSBS0087S02	Project:	SSFL00507
Sample ID:	187086006	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	17-MAY-07 10:31		
Receive Date:	18-MAY-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
SSFL EPA 314.0 Perchlorate with Leaching										
Perchlorate	U	4.00	1.14	4.00	ug/L	1	MAR1 06/08/07	2052	639829	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: 187202

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	187202
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
FSBS0090S01	187202001	N/A	Soil	6/5/2007 8:00:00 AM	314.0-DI WET
FSBS0091S01	187202002	N/A	Soil	6/5/2007 8:13:00 AM	314.0-DI WET
FSBS0091S02	187202003	N/A	Soil	6/5/2007 8:33:00 AM	314.0-DI WET

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: June 15, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days, was met.

- Calibration: Review is not applicable at a Level V validation. The reviewer noted that the closing CCV was above the project control limit of 110%, at 112%; therefore, perchlorate detected in FSBS0090S01 was qualified as estimated, "J."

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: The recovery was within the method-established QC limits of 85-115%.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on FSBS0090S01. The RPD exceeded the laboratory-established control limit; however, as the RPD was within the method-established control limit, no qualification was required.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on a sample from this SDG.

- Sample Result Verification: The sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit. A confirmation spike was performed on FSBS0090S01. The recovery was above the method-established control limit at 122%; therefore, perchlorate detected in the sample was qualified as estimated, "J."

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MECx, LLC
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: June 12, 2007

Contact: Ms. Elizabeth Wessling, MECx
Project: **SSFL Group 8 Hastings Data Gap Sampling**

Client Sample ID:	FSBS0090S01	Project:	SSFL00507
Sample ID:	187202001	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	05-JUN-07 08:00		
Receive Date:	06-JUN-07		
Collector:	Client		
Moisture:	4.17%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
SSFL EPA 314.0 Perchlorate with Leaching										
Perchlorate	J/Q,R J	6.04	1.14	4.00	ug/L	1	MAR1 06/11/07	1254	640486	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MECx. LLC
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: June 12, 2007

Contact: Ms. Elizabeth Wessling, MECx
Project: **SSFL Group 8 Hastings Data Gap Sampling**

Client Sample ID:	FSBS0091S01	Project:	SSFL00507
Sample ID:	187202002	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	05-JUN-07 08:13		
Receive Date:	06-JUN-07		
Collector:	Client		
Moisture:	4.79%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
SSFL EPA 314.0 Perchlorate with Leaching										
Perchlorate	U	4.00	1.14	4.00	ug/L	1	MAR1 06/09/07	1607	640486	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MECx, LLC
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: June 12, 2007

Contact: Ms. Elizabeth Wessling, MECx
Project: **SSFL Group 8 Hastings Data Gap Sampling**

Client Sample ID:	FSBS0091S02	Project:	SSFL00507
Sample ID:	187202003	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	05-JUN-07 08:33		
Receive Date:	06-JUN-07		
Collector:	Client		
Moisture:	13.9%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
SSFL EPA 314.0 Perchlorate with Leaching										
Perchlorate	U	4.00	1.14	4.00	ug/L	1	MAR1 06/09/07	1622	640486	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: 187451

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.002
Sample Delivery Group:	187451
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
FSBS0036AS01	187451001	N/A	Soil	6/7/2007 1:55:00 PM	6020
FSBS0095S01	187451002	N/A	Soil	6/7/2007 2:31:00 PM	6020
FSBS0096S01	187451003	N/A	Soil	6/7/2007 2:59:00 PM	6020

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: June 27, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 6020* and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: Analytical holding times, six months for ICP-MS metals, were met.
- Tuning: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Review is not applicable at a Level V validation.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on a sample from this SDG.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.
- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
    - Field Blanks and Equipment Rinsates: Arsenic was not detected in field blank ESQW0002F01 (186314) or equipment rinsate FSQW0005E01 (186348).

- Field Duplicates: There were no field duplicate samples identified for this SDG.

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 187451 **CONTRACT:** SSFL00507 **METHOD TYPE:** SW846

SAMPLE ID: 187451001 **BASIS:** Dry Weight **DATE COLLECTED** 07–JUN–07

CLIENT ID: FSBS0036AS01 **LEVEL:** Low **DATE RECEIVED** 08–JUN–07

MATRIX: SOIL **%SOLIDS:** 97.9

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440–38–2	Arsenic	6.1	mg/kg		0.304	1.01	1	2	MS	BAJ	06/13/07 20:33	070613–1	641516

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
641516	641514	SW846 3050B	0.504	g	50	mL	06/12/07	FGA

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 187451 **CONTRACT:** SSFL00507 **METHOD TYPE:** SW846

SAMPLE ID: 187451002 **BASIS:** Dry Weight **DATE COLLECTED** 07–JUN–07

CLIENT ID: FSBS0095S01 **LEVEL:** Low **DATE RECEIVED** 08–JUN–07

MATRIX: SOIL **%SOLIDS:** 98

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440–38–2	Arsenic	17	mg/kg		0.292	.972	1	2	MS	BAJ	06/13/07 20:39	070613–1	641516

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
641516	641514	SW846 3050B	0.525	g	50	mL	06/12/07	FGA

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 187451 **CONTRACT:** SSFL00507 **METHOD TYPE:** SW846

SAMPLE ID: 187451003 **BASIS:** Dry Weight **DATE COLLECTED** 07–JUN–07

CLIENT ID: FSBS0096S01 **LEVEL:** Low **DATE RECEIVED** 08–JUN–07

MATRIX: SOIL **%SOLIDS:** 98

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440–38–2	Arsenic	30.7	mg/kg		1.53	5.08	1	10	MS	BAJ	06/13/07 19:31	070613–1	641516

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
641516	641514	SW846 3050B	0.502	g	50	mL	06/12/07	FGA

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: 187884H

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.002
Sample Delivery Group:	187884H
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
FSBS0088S01	187884003	N/A	Soil	5/30/2007 9:16:00 AM	6010B
FSBS0089S01	187884001	N/A	Soil	5/30/2007 8:44:00 AM	6010B
FSBS0089S02	187884002	N/A	Soil	5/30/2007 9:09:00 AM	6010B,

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: July 5, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 6010B* and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: Analytical holding times, six months for ICP metals, were met.
- Tuning: Not applicable to this analysis.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Review is not applicable at a Level V validation.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: Laboratory duplicate analyses were performed on FSBS0089S01. The RPD was within the laboratory-established control limit.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on FSBS0089S01. Recoveries and RPD were within laboratory-established QC limits.
- Serial Dilution: Serial dilution analyses were performed on FSBS0089S01. The %D was within the laboratory-established control limit.
- Internal Standards Performance: Not applicable to this analysis.
- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
    - Field Blanks and Equipment Rinsates: Sodium was not detected in field blank ESQW0002F01 (196314) or equipment rinsate FSQW0005E01 (186359).

- Field Duplicates: There were no field duplicate samples identified for this SDG.

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 187884H **CONTRACT:** SSFL00507 **METHOD TYPE:** SW846

SAMPLE ID: 187884001 **BASIS:** Dry Weight **DATE COLLECTED** 30-MAY-07

CLIENT ID: FSBS0089S01 **LEVEL:** Low **DATE RECEIVED** 31-MAY-07

MATRIX: SOIL **%SOLIDS:** 92.8

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-23-5	Sodium	111	mg/kg		4.69	15.6	50	1	P	HSC	06/19/07 11:02	061907-1	643265

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
643265	643264	SW846 3050B	0.517	g	50	mL	06/18/07	FGA

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 187884H **CONTRACT:** SSFL00507 **METHOD TYPE:** SW846

SAMPLE ID: 187884002 **BASIS:** Dry Weight **DATE COLLECTED** 30–MAY–07

CLIENT ID: FSBS0089S02 **LEVEL:** Low **DATE RECEIVED** 31–MAY–07

MATRIX: SOIL **%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440–23–5	Sodium	301	mg/kg		4.89	16.3	50	1	P	HSC	06/19/07 10:50	061907–1	643265

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
643265	643264	SW846 3050B	0.518	g	50	mL	06/18/07	FGA

LEVEL V

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 187884H **CONTRACT:** SSFL00507 **METHOD TYPE:** SW846

SAMPLE ID: 187884003 **BASIS:** Dry Weight **DATE COLLECTED** 30-MAY-07

CLIENT ID: FSBS0088S01 **LEVEL:** Low **DATE RECEIVED** 31-MAY-07

MATRIX: SOIL **%SOLIDS:** 95

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-23-5	Sodium	82.8	mg/kg		4.66	15.5	50	1	P	HSC	06/19/07 10:56	061907-1	643265

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
643265	643264	SW846 3050B	0.508	g	50	mL	06/18/07	FGA

LEVEL V

12269 East Vassar Drive, Aurora, CO 80014
303.881.6816, Fax 720.535.7555

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, LOX
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V[1]
SDG:	IPG2469
Matrix:	Soil/Water
No. of Samples:	13
No. of Reanalyses:	0
Date Reviewed:	October 26, 2006
Reviewer:	P. Meeks
Reference:	USEPA *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (2/94)
Samples Reviewed:	MJ838, MJ839, MJ842, MJ843, MJ844, MJ845, MJ846, MJ847, MJ848, MJ849, MJ850, MJ851, MJ852

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received at Test America-Irvine within the temperature limits of 4° ±2°C, at 4°C. The samples were received intact and properly preserved. There was no information regarding the absence of headspace in the water VOA vials. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The COC was signed and dated by field and laboratory personnel. Method 8260B analysis was requested on the COC but only trichloroethene was reported. The soil and water samples were analyzed within 14 days of collection.	No qualifications were required.
4. Method Blanks 6G31017-BLK1 6H01030-BLK1 6H01027-BLK1 6H01010-BLK1 6H02007-BLK1	Trichloroethene was detected below the reporting limit in 6H02007-BLK1; however, trichloroethene was not detected in the associated sample. Trichloroethene was not detected in the remaining method blanks.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS 6G31017-BS1/BSD1 6H01030-BS1 6H01027-BS1/BSD1 6H01010-BS1 6H02007-BS1	The trichloroethene recoveries and RPDs were within the laboratory-established QC limits.	No qualifications were required.
6. Surrogates	The recoveries were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs None	MS/MSD analyses were not performed on the samples of this SDG.	No qualifications were required.
9. Field QC Samples TB: MJ852 FB: None ER: MJ851 FD: MJ847/MJ850	Trichloroethene was not detected in either the trip blank or the equipment rinsate. Trichloroethene was detected in both field duplicate samples with an RPD of 123%. It should be noted that the primary sample was reported on dry-weight basis while the field duplicate was reported on wet-weight basis. Correcting for percent moisture for MJ850 would increase the TCE concentration and increase the RPD for the duplicate pair.	No qualifications were required.
10. Other	Sample MJ848 was analyzed at an 83.5× dilution in order to report trichloroethene within linear range of the calibration. The reporting limit and MDL were appropriately adjusted. According to the result summary report sample MJ850 was reported on a wet-weight basis and the remaining soil samples were reported on a dry-weight basis. The soils samples were reported in units of µg/Kg.	None
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms and chromatograms, and raw data is not evaluated. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed. Criteria not reviewed include instrument tunes, initial and continuing calibrations, compound identification, and compound quantification.

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: LOX WPAA
Boeing SSFL
Report Number: IPG2469

Sampled: 07/27/06
Received: 07/27/06

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers (Rev Qual / Qual Code)
Sample ID: IPG2469-01 (MJ838 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6G31017	0.31	1.8	ND	0.814	07/31/06	07/31/06	U
Surrogate: Dibromofluoromethane (80-125%)					*113 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*92 %*				
Sample ID: IPG2469-02 (MJ839 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6G31017	0.32	1.9	ND	0.816	07/31/06	07/31/06	U
Surrogate: Dibromofluoromethane (80-125%)					*112 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*93 %*				
Sample ID: IPG2469-05 (MJ842 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6G31017	0.37	2.2	ND	0.924	07/31/06	07/31/06	U
Surrogate: Dibromofluoromethane (80-125%)					*110 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*88 %*				
Sample ID: IPG2469-06 (MJ843 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6G31017	0.36	2.1	**18**	0.896	07/31/06	07/31/06	
Surrogate: Dibromofluoromethane (80-125%)					*122 %*				
Surrogate: Toluene-d8 (80-120%)					*97 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*87 %*				
Sample ID: IPG2469-07 (MJ844 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6G31017	0.32	1.9	ND	0.856	07/31/06	07/31/06	U
Surrogate: Dibromofluoromethane (80-125%)					*120 %*				
Surrogate: Toluene-d8 (80-120%)					*100 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*98 %*				
Sample ID: IPG2469-08 (MJ845 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6G31017	0.33	2.0	ND	0.935	07/31/06	07/31/06	U
Surrogate: Dibromofluoromethane (80-125%)					*114 %*				
Surrogate: Toluene-d8 (80-120%)					*100 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*96 %*				

Rev Qual | Qual Code

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: LOX WPAA
Boeing SSFL
Report Number: IPG2469

Sampled: 07/27/06
Received: 07/27/06

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers (Rev Qual / Qual Code)
Sample ID: IPG2469-09 (MJ846 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6G31017	0.34	2.0	ND	0.896	07/31/06	07/31/06	U
Surrogate: Dibromofluoromethane (80-125%)					*115 %*				
Surrogate: Toluene-d8 (80-120%)					*99 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*89 %*				
Sample ID: IPG2469-10 (MJ847 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6H01030	0.33	2.0	**6.2**	0.87	08/01/06	08/01/06	
Surrogate: Dibromofluoromethane (80-125%)					*110 %*				
Surrogate: Toluene-d8 (80-120%)					*105 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*98 %*				
Sample ID: IPG2469-11 (MJ848 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6H01027	37	97	**500**	83.5	08/01/06	08/03/06	
Surrogate: Dibromofluoromethane (55-140%)					*78 %*				
Surrogate: Toluene-d8 (60-140%)					*81 %*				
Surrogate: 4-Bromofluorobenzene (65-140%)					*69 %*				
Sample ID: IPG2469-12 (MJ849 - Soil)									
Reporting Units: ug/kg dry									
Trichloroethene	EPA 8260B	6G31017	0.42	2.5	**370**	1.13	07/31/06	07/31/06	
Surrogate: Dibromofluoromethane (80-125%)					*123 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*89 %*				
Sample ID: IPG2469-13 (MJ850 - Soil)									
Reporting Units: ug/kg wet									
Trichloroethene	EPA 8260B	6G31017	0.30	1.8	**26**	0.882	07/31/06	07/31/06	
Surrogate: Dibromofluoromethane (80-125%)					*121 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*95 %*				

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: LOX WPAA
Boeing SSFL
Report Number: IPG2469

Sampled: 07/27/06
Received: 07/27/06

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers (Rev Qual / Qual Code)
Sample ID: IPG2469-14 (MJ851 - Water)									
Reporting Units: ug/l									
Trichloroethene	EPA 8260B	6H01010	0.26	2.0	ND	1	08/01/06	08/01/06	U
Surrogate: Dibromofluoromethane (80-120%)					*91 %*				
Surrogate: Toluene-d8 (80-120%)					*109 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*105 %*				
Sample ID: IPG2469-15 (MJ852 - Water)									
Reporting Units: ug/l									
Trichloroethene	EPA 8260B	6H02007	0.26	2.0	ND	1	08/02/06	08/02/06	U
Surrogate: Dibromofluoromethane (80-120%)					*91 %*				
Surrogate: Toluene-d8 (80-120%)					*103 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*109 %*				

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: D7E180378

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	D7E180378
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	4
No. of Reanalyses/Dilutions:	0
Laboratory:	STL-Denver

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
BLBS0063S01SP	D7E180378004	N/A	Soil	5/17/2007 8:45:00 AM	9056
FSBS0084S01SP	D7E180378002	N/A	Soil	5/17/2007 8:43:00 AM	6010B, 9056
FSBS0086S01SP	D7E180378003	N/A	Soil	5/17/2007 9:12:00 AM	6010B, 9056
FSBS0093S01SP	D7E180378001	N/A	Soil	5/17/2007 7:57:00 AM	1613B, 6010B, 7471A, 8082, 9056

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight
Date Reviewed: June 15, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (8/02).

- Holding Times: Extraction and analytical holding times were met. The samples were extracted and analyzed within one year of collection.

- Instrument Performance: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: OCDD was reported as an EMPC in the method blank; however, there were no target compound detects above the EDL in the sample.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.

- Matrix Spike/ Matrix Spike Duplicate: MS/MSD analyses were performed on FSBS0093S01SP. The recoveries and RPDs were within the laboratory-established control limits.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: There were no reportable detects in field blank BLQW0019F01 (186235) or equipment rinsate FSQW0005E01 (186348).

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

- Internal Standards Performance: Internal standard recoveries are not routinely evaluated at a Level V validation; however, the recoveries were reported on the sample result summaries. The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.

- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. The laboratory calculated and reported compound-specific detection limits. Any reported estimated maximum possible concentration (EMPC) was qualified as an estimated nondetect, "UJ." Any detect below the laboratory lower calibration level was qualified as estimated, "J." The laboratory reported results in two significant figures rather that three. Nondetects are valid to the estimated detection limit (EDL).

B. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: June 15, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B, 6020, 7470A/7471A*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: Analytical holding times, six months for ICP metals and 28 days for mercury, were met.

- Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: There were no applicable method blanks or CCBs detects.

- Interference Check Samples: Review is not applicable at a Level V validation.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: Laboratory duplicate analyses were not performed on a sample from this SDG.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on a sample from this SDG.

- Serial Dilution: Serial dilution analyses were not performed on a sample from this SDG.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: There were no applicable detects in field blank BLQW0019F01 (186235) or equipment rinsate FSQW0005E01 (186348).

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. EPA METHOD 8082—PCBs

Reviewed By: K. Shadowlight
Date Reviewed: June 15, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 8082*, and the *National Functional Guidelines for Organic Data Review* (2/94).

- Holding Times: Extraction and analytical holding times were met. The soil samples were extracted within 14 days of collection and analyzed within 40 days of extraction.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on sample FSBS0093S01SP. The recoveries and RPDs were within the laboratory-established control limits.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: There were no reportable detects in field blank BLQW0019F01 (186235) or equipment rinsate FSQW0005E01 (186348).

- Field Duplicates: There were no field duplicate samples identified for this SDG.

- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for Aroclors by Method 8082.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. The laboratory reported results in two significant figures rather that three. Reported nondetects are valid to the reporting limit.

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: June 15, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 300.0*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: Analytical holding times, 28 days from collection for fluoride, were met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries and the RPD were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on FSBS0093S01SP. Recoveries and the RPD were within laboratory-established QC limits.

- Sample Result Verification: Review is not applicable at a Level V validation. Nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Fluoride was not detected in field blank ESQW0002F01 (186314) or equipment rinsates BLQW0019E01 (186235) and FSQW0005E01 (186348).

- Field Duplicates: There were no field duplicate samples identified for this SDG.

MWH Americas, Inc.

Sample ID: FSBS0093S01SP

Trace Level Organic Compounds

Lot - Sample #....:	D7E180378 - 001	Work Order #....:	JXAPE1AH	Matrix....:	SO
Date Sampled....:	05/17/07	Date Received....:	05/18/07	Dilution Factor:	1
Prep Date....:	05/25/07	Analysis Date....:	06/01/07	Percent Moisture:	1.9
Prep Batch # ....:	7145343				
Initial Wgt/Vol :	10.2 g	Instrument ID....:	M2A	Method:	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER		RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	U	ND		1.0	0.64	ng/kg
Total TCDD		ND		1.0	0.64	ng/kg
1,2,3,7,8-PeCDD		ND		5.0	0.24	ng/kg
Total PeCDD		ND		5.0	0.24	ng/kg
1,2,3,4,7,8-HxCDD		ND		5.0	0.19	ng/kg
1,2,3,6,7,8-HxCDD		ND		5.0	0.24	ng/kg
1,2,3,7,8,9-HxCDD		ND		5.0	0.20	ng/kg
Total HxCDD		ND		5.0	0.21	ng/kg
1,2,3,4,6,7,8-HpCDD	J	1.9	J	5.0	0.30	ng/kg
Total HpCDD	J	4.7	J	5.0	0.30	ng/kg
OCDD		16	B	10	0.34	ng/kg
2,3,7,8-TCDF	U	ND		1.0	0.47	ng/kg
Total TCDF	UJ/*III	2.6	Q	1.0	0.47	ng/kg
1,2,3,7,8-PeCDF	U	ND		5.0	0.26	ng/kg
2,3,4,7,8-PeCDF	U	ND		5.0	0.18	ng/kg
Total PeCDF	UJ/*III	3.1	J Q	5.0	0.22	ng/kg
1,2,3,4,7,8-HxCDF	U	ND		5.0	0.11	ng/kg
1,2,3,6,7,8-HxCDF		ND		5.0	0.11	ng/kg
2,3,4,6,7,8-HxCDF		ND		5.0	0.12	ng/kg
1,2,3,7,8,9-HxCDF		ND		5.0	0.18	ng/kg
Total HxCDF	UJ/*III	1.4	Q J	5.0	0.12	ng/kg
1,2,3,4,6,7,8-HpCDF	UJ/*III	0.55	Q J	5.0	0.18	ng/kg
1,2,3,4,7,8,9-HpCDF	U	ND		5.0	0.25	ng/kg
Total HpCDF	UJ/*III	0.55	Q J	5.0	0.21	ng/kg
OCDF	UJ/*III	0.69	Q J	10	0.29	ng/kg

Level V

STL

MWH Americas, Inc.

Total Metals Analysis Data Sheet

Lab Name:	STL DENVER	**Client Sample ID:**	FSBS0093S01SP
Lot/SDG Number:	D7E180378	**Lab Sample ID:**	D7E180378-001
Matrix:	SOLID	**Lab WorkOrder:**	JXAPE
% Moisture:	1.9	**Date/Time Collected:**	05/17/07 07:57
Basis:	Dry	**Date/Time Received:**	05/18/07 08:45
Analysis Method:	6010B	**Date Leached:**	
Unit:	mg/kg	**Date/Time Extracted:**	05/23/07 08:00
QC Batch ID:	7142591	**Date/Time Analyzed:**	05/25/07 03:58
Sample Aliquot:	1.01 g	**Instrument ID:**	025
Dilution Factor:	1		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-67-7	Zirconium	**2.8**	0.69	3.1	J

LEVEL V

STL

MWH Americas, Inc.

Total Metals Analysis Data Sheet

Lab Name:	STL DENVER	**Client Sample ID:**	FSBS0093S01SP
Lot/SDG Number:	D7E180378	**Lab Sample ID:**	D7E180378-001
Matrix:	SOLID	**Lab WorkOrder:**	JXAPE
% Moisture:	1.9	**Date/Time Collected:**	05/17/07 07:57
Basis:	Dry	**Date/Time Received:**	05/18/07 08:45
Analysis Method:	7471A	**Date Leached:**	
Unit:	ug/kg	**Date/Time Extracted:**	05/23/07 10:40
QC Batch ID:	7141529	**Date/Time Analyzed:**	05/23/07 20:48
Sample Aliquot:	0.31 g	**Instrument ID:**	023
Dilution Factor:	1		

CAS No.	Analyte	Conc.	MDL	RL	Q
7439-97-6	Mercury	**3.9**	2.9	34	J

LEVEL V

STL

MWH Americas, Inc.

Total Metals Analysis Data Sheet

Lab Name:	STL DENVER	**Client Sample ID:**	FSBS0084S01SP
Lot/SDG Number:	D7E180378	**Lab Sample ID:**	D7E180378-002
Matrix:	SOLID	**Lab WorkOrder:**	JXAPF
% Moisture:	3.3	**Date/Time Collected:**	05/17/07 08:43
Basis:	Dry	**Date/Time Received:**	05/18/07 08:45
Analysis Method:	6010B	**Date Leached:**	
Unit:	mg/kg	**Date/Time Extracted:**	05/23/07 08:00
QC Batch ID:	7142591	**Date/Time Analyzed:**	05/25/07 04:03
Sample Aliquot:	1.01 g	**Instrument ID:**	025
Dilution Factor:	1		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-67-7	Zirconium	**3.8**	0.70	3.1	

LEVEL V

STL

MWH Americas, Inc.

Total Metals Analysis Data Sheet

Lab Name:	STL DENVER	**Client Sample ID:**	FSBS0086S01SP
Lot/SDG Number:	D7E180378	**Lab Sample ID:**	D7E180378-003
Matrix:	SOLID	**Lab WorkOrder:**	JXAPG
% Moisture:	7.7	**Date/Time Collected:**	05/17/07 09:12
Basis:	Dry	**Date/Time Received:**	05/18/07 08:45
Analysis Method:	6010B	**Date Leached:**	
Unit:	mg/kg	**Date/Time Extracted:**	05/23/07 08:00
QC Batch ID:	7142591	**Date/Time Analyzed:**	05/25/07 04:08
Sample Aliquot:	1.01 g	**Instrument ID:**	025
Dilution Factor:	1		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-67-7	Zirconium	**4.0**	0.74	3.3	

LEVEL V

STL

MWH Americas, Inc.

Analysis Data Sheet

Lab Name:	STL DENVER	**Client Sample ID:**	FSBS0093S01SP
Lot/SDG Number:	D7E180378	**Lab Sample ID:**	D7E180378-001
Matrix:	SOLID	**Lab WorkOrder:**	JXAPE1AK
% Moisture:	1.9	**Date/Time Collected:**	05/17/07 07:57
Basis:	Dry	**Date/Time Received:**	05/18/07 08:45
Analysis Method:	8082	**Date Leached:**	
Unit:	ug/kg	**Date/Time Extracted:**	05/21/07 07:15
QC Batch ID:	7141093	**Date/Time Analyzed:**	05/24/07 19:50
Sample Aliquot:	30.3 g	**Instrument ID:**	W1
Dilution Factor:	1		

CAS No.	Analyte	Conc.	MDL	RL	Q
12674-11-2	Aroclor 1016	5.2	5.2	34	U
11104-28-2	Aroclor 1221	16	16	48	U
11141-16-5	Aroclor 1232	5.2	5.2	34	U
53469-21-9	Aroclor 1242	9.3	9.3	34	U
12672-29-6	Aroclor 1248	5.7	5.7	34	U
11097-69-1	Aroclor 1254	5.6	5.6	34	U
11096-82-5	Aroclor 1260	2.7	2.7	34	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
2051-24-3	Decachlorobiphenyl	96	38	162	
877-09-8	Tetrachloro-m-xylene	87	53	132	

Level IV

Form 1 Analysis Data Sheet Equivalent

MWH Americas, Inc.

Client Sample ID: FSBS0093S01SP

General Chemistry

Lot-Sample #...: D7E180378-001 Work Order #...: JXAPE Matrix.....: SO
Date Sampled...: 05/17/07 07:57 Date Received..: 05/18/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Fluoride	1.2 J	10	mg/kg	SW846 9056	05/25/07	7146065
	Dilution Factor: 1			Analysis Time..: 19:40	MDL.....: 0.84	
Total Solids *	98	0.10	%	MCAWW 160.3 MOD	05/23/07	7143403
	Dilution Factor: 1			Analysis Time..: 11:30	MDL.....:	

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Estimated result: result is less than RL and greater than or equal to the MDL.

* Analysis not validated

LEVEL V

MWH Americas, Inc.

Client Sample ID: FSBS0084S01SP

General Chemistry

Lot-Sample #...: D7E180378-002 Work Order #...: JXAPF Matrix.....: SO
Date Sampled...: 05/17/07 08:43 Date Received..: 05/18/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Fluoride	2.0 J	10	mg/kg	SW846 9056	05/25/07	7146065
		Dilution Factor: 1		Analysis Time..: 20:28	MDL.....: 0.85	
Total Solids *	97	0.10	%	MCAWW 160.3 MOD	05/21/07	7141589
		Dilution Factor: 1		Analysis Time..: 11:45	MDL.....:	

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Estimated result: result is less than RL and greater than or equal to the MDL.

* Analysis not validated

LEVEL V

MWH Americas, Inc.

Client Sample ID: FSBS0086S01SP

General Chemistry

Lot-Sample #...: D7E180378-003 Work Order #...: JXAPG Matrix.....: SO
Date Sampled...: 05/17/07 09:12 Date Received..: 05/18/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Fluoride	2.0 J	11 Dilution Factor: 1	mg/kg	SW846 9056 Analysis Time..: 20:43	05/25/07 MDL.....: 0.89	7146065
Total Solids *	92	0.10 Dilution Factor: 1	%	MCAWW 160.3 MOD Analysis Time..: 11:45	05/21/07 MDL.....:	7141589

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Estimated result: result is less than RL and greater than or equal to the MDL.

* Analysis not validated

LEVEL V

MWH Americas, Inc.

Client Sample ID: BLBS0063S01SP

General Chemistry

Lot-Sample #...: D7E180378-004 **Work Order #...:** JXAPH **Matrix.....:** SO
Date Sampled...: 05/17/07 08:45 **Date Received..:** 05/18/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Fluoride	**5.5 J**	**11**	**mg/kg**	**SW846 9056**	**05/25/07**	**7146065**
		Dilution Factor: 1		Analysis Time..: 20:59	MDL.....: 0.87	
Total Solids *	**95**	**0.10**	**%**	**MCAWW 160.3 MOD**	**05/21/07**	**7141589**
		Dilution Factor: 1		Analysis Time..: 11:45	MDL.....:	

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Estimated result: result is less than RL and greater than or equal to the MDL.

*Analysis not validated

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQB1216

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	IQB1216
Project Manager:	Dixie Hambrick
Matrix:	Soil
QC Level:	V
No. of Samples:	8
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample name	Matrix Type	Collection Date	Method
FSBS0004S01	IQB1216-01	N/A	Soil	12-Feb-07	7471A, 8082, 9045C
FSBS0005S01	IQB1216-02	N/A	Soil	12-Feb-07	314.0-DI WET, 7471A, 8082, 9045C
FSBS0006S01	IQB1216-03	N/A	Soil	12-Feb-07	314.0-DI WET, 7471A, 8082, 9045C
FSBS0007S01	IQB1216-04	N/A	Soil	12-Feb-07	314.0-DI WET, 7471A, 8082, 9045C
FSBS0071S01	IQB1216-05	N/A	Soil	12-Feb-07	9045C
FSBS0069S01	IQB1216-06	N/A	Soil	12-Feb-07	1613B, 314.0-DI WET, 6010B, 6020, 7471A, 8082, 9045C
FSBS0070S01	IQB1216-07	N/A	Soil	12-Feb-07	1613B, 314.0-DI WET, 6010B, 6020, 7471A, 8082, 9045C
FSBS0070S02	IQB1216-08	N/A	Soil	12-Feb-07	9045C

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present. Not applicable.	
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight
Date Reviewed: March 26, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (8/02).

- Holding Times: Extraction and analytical holding times were met. The soil samples were extracted and analyzed within one year of collection.

- Instrument Performance: Review is not applicable at a level V validation.

- Calibration: Review is not applicable at a level V validation.

- Blanks: The method blank had detects for OCDD, 2,3,4,7,8-PeCDF and total PeCDFs above the EDL. Target compound 2,3,4,7,8-PeCDF was reported in both site samples at concentrations less than five times the concentration of the method blank; therefore, the results were qualified as estimated nondetects, "UJ," at the levels of interference. As a portion of total PeCDFs in both site samples included 2,3,4,7,8-PeCDF the results were qualified as estimated, "J," due to method blank contamination.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: There were several detects in the field blank BLQW0018F01 (IQB1202), and equipment rinsate, FSQW0002E01 (IQB2570). The result for 1,2,3,7,8-PeCDF was qualified as estimated, "J," in sample FSBS0069S01.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

- Internal Standards Performance: Internal standard recoveries are not routinely evaluated at a Level V validation; however, the recoveries were reported on the sample result summaries. The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.

- Compound Identification: Review is not applicable at a level V validation. The laboratory

analyzed for polychlorinated dioxins/furans by EPA Method 1613. A confirmation analysis was not performed for the 2,3,7,8-TCDF detects reported in both site samples; therefore, the results for 2,3,7,8-TCDF were qualified as estimated, "J."

- Compound Quantification and Reported Detection Limits: Review is not applicable at a level V validation. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Reported nondetects are valid to the estimated detection limit (EDL).

B. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: 3/28/07

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B, 6020, 7470A/7471A*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.

- Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Method blanks and CCBs had no applicable detects.

- Interference Check Samples: Boron was detected in the ICSA solution at 19.5 µg/L; therefore, boron detected in both samples was qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: Antimony was recovered below 30% in both the MS and the MSD, and copper, selenium, zinc, and zirconium were recovered below the QC limits in both the MS and MSD. The aforementioned analytes were qualified as estimated, "J," in both samples. All remaining recoveries and all RPDs were within laboratory-established QC limits.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: All sample internal standard intensities were within 30-

120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: There were no detects in the field blank, BLQW0018F01 (IQB1202), or the equipment rinsate, FSQW0002E01 (IQB2570). It should be noted that the equipment rinsate was not analyzed for aluminum, boron, lithium, potassium, sodium, or zirconium.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: 3/28/07

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the method-established QC limits of 85-115%.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: Recoveries and RPDs were within method-established QC limits of 80-120% and ≤15%, respectively.

- Sample Result Verification: The sample results reported on the Form I were verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Perchlorate was not detected in the field blank, BLQW0018F01 (IQB1202), or the equipment rinsate, FSQW0002E01 (IQB2570).
    - Field Duplicates: There were no field duplicate samples identified for this SDG.

D. EPA METHOD 8082—PCBs

Reviewed By: L. Calvin
Date Reviewed: March 28, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 8082*, and the *National Functional Guidelines for Organic Data Review* (2/94).

- Holding Times: Extraction and analytical holding times were met. The soil samples were extracted within 14 days of collection and analyzed within 40 days of extraction.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on sample FSBS0069S01. Recoveries and RPDs were within the laboratory-established QC limits.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Field blank BLQW0018F01 (IQB1202) and equipment rinsate FSQW0002E01 (IQB2570) had no reported target compound detects above the MDL.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

- Compound Identification: Review is not applicable at a Level V validation.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. The laboratory analyzed samples FSBS0005S01, FSBS0006S01, and FSBS0007S01 at 2× dilutions due to sample matrix effect. Reported nondetects are valid to the reporting limit.

E. EPA METHOD 9045C—General Minerals

Reviewed By: P. Meeks
Date Reviewed: 3/28/07

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 9045C*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 24 hours from preparation for pH, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Not applicable to this analysis.

- Blank Spikes and Laboratory Control Samples: Not applicable to this analysis.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on FSBS0004S01 and FSBS0069S01. The RPDs were within the laboratory-established control limits.

- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.

- Sample Result Verification: Review is not applicable at a Level V validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Not applicable to this analysis.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

Method 1613

IQB1216-06 FSBS0069501

Test America

Analytical Data Summary Sheet

Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.161	0.936			
1,2,3,7,8-PeCDD	ND	0.130	4.68			
1,2,3,4,7,8-HxCDD	0.221	0.143	4.68	36:41	1.10	A
1,2,3,6,7,8-HxCDD	0.227	0.147	4.68	36:41	1.1	A
1,2,3,7,8,9-HxCDD	ND	0.144	4.68			
1,2,3,4,6,7,8-HpCDD	1.17	0.191	4.68	39:57	1.02	A
OCDD	12.6	0.340	9.36	44:08	0.90	
2,3,7,8-TCDF	0.403	0.199	0.936	30:26	0.84	A
1,2,3,7,8-PeCDF	0.114	0.0867	4.68	33:14	1.46	A
2,3,4,7,8-PeCDF	0.125	0.0888	4.68	33:51	1.6	A
1,2,3,4,7,8-HxCDF	ND	0.0920	4.68			
1,2,3,6,7,8-HxCDF	ND	0.0891	4.68			
2,3,4,6,7,8-HxCDF	ND	0.0940	4.68			
1,2,3,7,8,9-HxCDF	0.170	0.125	4.68	37:14	1.09	A
1,2,3,4,6,7,8-HpCDF	0.307	0.134	4.68	38:43	1.15	A
1,2,3,4,7,8,9-HpCDF	ND	0.197	4.68			
OCDF	ND	0.281	9.36			
Total TCDDs	ND	0.161	0.936			
Total PeCDDs	ND	0.130	4.68			
Total HxCDDs	0.740	0.145	4.68			A
Total HpCDDs	2.89	0.191	4.68			A
Total TCDFs	1.02	0.199	0.936			
Total PeCDFs	0.891	0.0877	4.68			A
Total HxCDFs	0.536	0.0987	4.68			A
Total HpCDFs	0.547	0.161	4.68			A
ITEF TEQ (ND=0)	0.198					
ITEF TEQ (ND=½)	0.333					

Client Information			**Sample Information**		
Project Name:	IQB1216		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	IQB1216-06		Weight / Volume:	12.15	Grams
			Solids / Lipids:	87.9	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14123	
Project ID:	G579-222				
Sample ID:	G579-222-1B		Filename:	a22feb07a-5	
Collection Date/Time:	12-Feb-07	13:25	Retchk:	a22feb07a-1	
Receipt Date:	15-Feb-07	11:35	Begin ConCal:	a22feb07a-1	
Extraction Date:	19-Feb-07				
Analysis Date:	22-Feb-07	19:37	Initial Cal:	m1613-071006e	

Level IV

pm 3/28/07

Method 1613

IQB1216-07 FSBS007050J

Test America

Analytical Data Summary Sheet

Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.192	0.880			
1,2,3,7,8-PeCDD	ND	0.198	4.40			
1,2,3,4,7,8-HxCDD	ND	0.252	4.40			
1,2,3,6,7,8-HxCDD	0.361	0.252	4.40	36:41	1.2	A
1,2,3,7,8,9-HxCDD	0.429	0.250	4.40	36:56	1.13	A
1,2,3,4,6,7,8-HpCDD	4.02	0.235	4.40	39:57	1.01	A
OCDD	30.0	0.526	8.80	44:08	0.87	
2,3,7,8-TCDF	0.421	0.270	0.880	30:26	0.82	A
1,2,3,7,8-PeCDF	ND	0.158	4.40			
2,3,4,7,8-PeCDF	0.319	0.158	4.40	33:51	1.34	A
1,2,3,4,7,8-HxCDF	ND	0.172	4.40			
1,2,3,6,7,8-HxCDF	0.171	0.170	4.40	36:00	1.12	A
2,3,4,6,7,8-HxCDF	0.181	0.168	4.40	36:29	1.19	A
1,2,3,7,8,9-HxCDF	ND	0.227	4.40			
1,2,3,4,6,7,8-HpCDF	0.642	0.196	4.40	38:43	0.99	A
1,2,3,4,7,8,9-HpCDF	ND	0.299	4.40			
OCDF	0.973	0.417	8.80	44:26	0.89	A
Total TCDDs	0.303	0.192	0.880			A
Total PeCDDs	0.519	0.198	4.40			A
Total HxCDDs	3.22	0.252	4.40			A
Total HpCDDs	11.5	0.235	4.40			
Total TCDFs	2.46	0.270	0.880			
Total PeCDFs	3.03	0.158	4.40			A
Total HxCDFs	1.44	0.182	4.40			A
Total HpCDFs	0.642	0.241	4.40			A
ITEF TEQ (ND=0)	0.393					
ITEF TEQ (ND=½)	0.577					

Client Information

Project Name:	IQB1216
Sample ID:	IQB1216-07

Laboratory Information

Project ID:	G579-222	
Sample ID:	G579-222-4B	
Collection Date/Time:	12-Feb-07	13:59
Receipt Date:	15-Feb-07	11:35
Extraction Date:	19-Feb-07	
Analysis Date:	22-Feb-07	22:01

Sample Information

Report Basis:	Dry Weight	
Matrix:	Soil	
Weight / Volume:	12.16	Grams
Solids / Lipids:	93.4	%
Original pH :	NA	
Batch ID:	WG14123	
Filename:	a22feb07a-8	
Retchk:	a22feb07a-1	
Begin ConCal:	a22feb07a-1	
Initial Cal:	m1613-071006e	

Level V

PM 3/28/07

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1216

Sampled: 02/12/07
Received: 02/13/07

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1216-06 (FSBS0069S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B14110	5.6	11	**14000**	0.995	02/14/07	02/15/07	MHA
Antimony	EPA 6020	7B14108	0.034	1.1	**0.13**	0.995	02/14/07	02/15/07	M2, J
Arsenic	EPA 6020	7B14108	0.28	0.56	**3.6**	0.995	02/14/07	02/15/07	
Barium	EPA 6020	7B14108	0.090	0.56	**76**	0.995	02/14/07	02/15/07	
Beryllium	EPA 6020	7B14108	0.045	0.34	**0.51**	0.995	02/14/07	02/15/07	
Boron J/I	EPA 6010B	7B14110	1.1	5.6	**2.9**	0.995	02/14/07	02/15/07	J
Cadmium	EPA 6020	7B14108	0.028	0.56	**0.16**	0.995	02/14/07	02/15/07	J
Chromium	EPA 6020	7B14108	0.39	1.1	**14**	0.995	02/14/07	02/15/07	
Cobalt	EPA 6020	7B14108	0.090	0.56	**5.1**	0.995	02/14/07	02/15/07	
Copper J/Q	EPA 6020	7B14108	0.22	1.1	**9.2**	0.995	02/14/07	02/15/07	M2
Lead	EPA 6020	7B14108	0.056	0.56	**6.6**	0.995	02/14/07	02/15/07	
Lithium	EPA 6010B	7B14110	4.3	7.1	**25**	0.995	02/14/07	02/15/07	
Molybdenum	EPA 6020	7B14108	0.11	1.1	**0.52**	0.995	02/14/07	02/15/07	J
Nickel	EPA 6020	7B14108	0.50	1.1	**9.2**	0.995	02/14/07	02/15/07	M2
Potassium	EPA 6010B	7B14110	21	56	**3700**	0.995	02/14/07	02/15/07	MHA
Selenium J/Q	EPA 6020	7B14108	0.22	1.1	**0.27**	0.995	02/14/07	02/15/07	M2, J
Silver	EPA 6020	7B14108	0.056	0.56	**0.098**	0.995	02/14/07	02/15/07	J
Sodium	EPA 6010B	7B14110	27	56	**58**	0.995	02/14/07	02/15/07	
Thallium	EPA 6020	7B14108	0.11	0.56	**0.30**	0.995	02/14/07	02/15/07	J
Vanadium	EPA 6020	7B14108	0.45	1.1	**25**	0.995	02/14/07	02/15/07	
Zinc J/Q	EPA 6020	7B14108	1.5	11	**42**	0.995	02/14/07	02/15/07	B, M2
Zirconium J/Q	EPA 6010B	7B16119	1.7	28	**1.7**	1	02/16/07	02/16/07	M2, J

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1216

Sampled: 02/12/07
Received: 02/13/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1216-07 (FSBS0070S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B14110	5.3	11	**12000**	0.995	02/14/07	02/15/07	
Antimony	EPA 6020	7B14108	0.032	1.1	**0.13**	0.995	02/14/07	02/15/07	J
Arsenic	EPA 6020	7B14108	0.27	0.53	**2.7**	0.995	02/14/07	02/15/07	
Barium	EPA 6020	7B14108	0.085	0.53	**81**	0.995	02/14/07	02/15/07	
Beryllium	EPA 6020	7B14108	0.042	0.32	**0.38**	0.995	02/14/07	02/15/07	
Boron J/I	EPA 6010B	7B14110	1.1	5.3	**3.7**	0.995	02/14/07	02/15/07	J
Cadmium	EPA 6020	7B14108	0.027	0.53	**0.22**	0.995	02/14/07	02/15/07	J
Chromium	EPA 6020	7B14108	0.37	1.1	**13**	0.995	02/14/07	02/15/07	
Cobalt	EPA 6020	7B14108	0.085	0.53	**4.4**	0.995	02/14/07	02/15/07	
Copper J/Q	EPA 6020	7B14108	0.21	1.1	**7.9**	0.995	02/14/07	02/15/07	
Lead	EPA 6020	7B14108	0.053	0.53	**12**	0.995	02/14/07	02/15/07	
Lithium	EPA 6010B	7B14110	4.0	6.7	**22**	0.995	02/14/07	02/15/07	
Molybdenum	EPA 6020	7B14108	0.11	1.1	**0.48**	0.995	02/14/07	02/15/07	J
Nickel	EPA 6020	7B14108	0.48	1.1	**8.3**	0.995	02/14/07	02/15/07	
Potassium	EPA 6010B	7B14110	20	53	**3300**	0.995	02/14/07	02/15/07	
Selenium J/Q	EPA 6020	7B14108	0.21	1.1	**0.27**	0.995	02/14/07	02/15/07	J
Silver	EPA 6020	7B14108	0.053	0.53	**0.071**	0.995	02/14/07	02/15/07	J
Sodium	EPA 6010B	7B14110	25	53	**59**	0.995	02/14/07	02/15/07	
Thallium	EPA 6020	7B14108	0.11	0.53	**0.29**	0.995	02/14/07	02/15/07	J
Vanadium	EPA 6020	7B14108	0.42	1.1	**22**	0.995	02/14/07	02/15/07	
Zinc J/Q	EPA 6020	7B14108	1.4	11	**42**	0.995	02/14/07	02/15/07	B
Zirconium J/Q	EPA 6010B	7B16119	1.6	27	**1.7**	1	02/16/07	02/16/07	J

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7021429
Project ID: IQB1216

Date Received: 02/14/07 11:40
Date Reported: 03/02/07 16:54

FSBS0004501

IQB1216-01 7021429-01 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**87.8**	% by Weight	0.100	1	Gravimetric	W7B0880	02/22/07	02/28/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.011**	0.00074	mg/kg dry	0.011	1	EPA 7471A	W7B0623	02/15/07	02/22/07 jl	

* Analysis not validated

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7021429
Project ID: IQB1216

Date Received: 02/14/07 11:40
Date Reported: 03/02/07 16:54

FSBS060550|

IQB1216-02 7021429-02 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**81.8**	% by Weight	0.100	1	Gravimetric	W7B0880	02/22/07	02/28/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.022**	0.00079	mg/kg dry	0.012	1	EPA 7471A	W7B0623	02/15/07	02/22/07 jl	

* Analysis not validated

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7021429
Project ID: IQB1216

Date Received: 02/14/07 11:40
Date Reported: 03/02/07 16:54

FSBS0006501

IQB1216-03 7021429-03 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**80.4**	% by Weight	0.100	1	Gravimetric	W7B0880	02/22/07	02/28/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.033**	0.00081	mg/kg dry	0.012	1	EPA 7471A	W7B0623	02/15/07	02/22/07 jl	

* Analysis not validated

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7021429
Project ID: IQB1216

Date Received: 02/14/07 11:40
Date Reported: 03/02/07 16:54

FSBS0007501

IQB1216-04 7021429-04 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**80.2**	% by Weight	0.100	1	Gravimetric	W7B0880	02/22/07	02/28/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.055**	0.00081	mg/kg dry	0.012	1	EPA 7471A	W7B0623	02/15/07	02/22/07 jl	

* Analysis not validated

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7021429
Project ID: IQB1216

Date Received: 02/14/07 11:40
Date Reported: 03/02/07 16:54

FSBS0069501

IQB1216-06 7021429-05 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**88.8**	% by Weight	0.100	1	Gravimetric	W7B0880	02/22/07	02/28/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.017**	0.00073	mg/kg dry	0.011	1	EPA 7471A	W7B0623	02/15/07	02/22/07 jl	

* Analysis not validated

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7021429
Project ID: IQB1216

Date Received: 02/14/07 11:40
Date Reported: 03/02/07 16:54

FSBS0070501

IQB1216-07 7021429-06 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**93.7**	% by Weight	0.100	1	Gravimetric	W7B0880	02/22/07	02/28/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.026**	0.00069	mg/kg dry	0.011	1	EPA 7471A	W7B0623	02/15/07	02/22/07 jl	

* Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1216

Sampled: 02/12/07
Received: 02/13/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1216-01 (FSBS0004S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B15123	0.10	0.10	**88**	1	02/15/07	02/16/07	
Sample ID: IQB1216-02 (FSBS0005S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B15123	0.10	0.10	**82**	1	02/15/07	02/16/07	
Sample ID: IQB1216-03 (FSBS0006S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B15123	0.10	0.10	**80**	1	02/15/07	02/16/07	
Sample ID: IQB1216-04 (FSBS0007S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B15123	0.10	0.10	**80**	1	02/15/07	02/16/07	
Sample ID: IQB1216-06 (FSBS0069S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B15123	0.10	0.10	**89**	1	02/15/07	02/16/07	
Sample ID: IQB1216-07 (FSBS0070S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B15123	0.10	0.10	**94**	1	02/15/07	02/16/07	
Sample ID: IQB1216-01 (FSBS0004S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B13136	0.00	NA	**7.43**	1	02/13/07	02/13/07	
Sample ID: IQB1216-02 (FSBS0005S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B13136	0.00	NA	**8.03**	1	02/13/07	02/13/07	
Sample ID: IQB1216-03 (FSBS0006S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B13136	0.00	NA	**8.00**	1	02/13/07	02/13/07	
Sample ID: IQB1216-04 (FSBS0007S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B13136	0.00	NA	**8.31**	1	02/13/07	02/13/07	

*Analysis not validated

LEVEL V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1216

Sampled: 02/12/07
Received: 02/13/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1216-05 (FSBS0071S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B13136	0.00	NA	**7.02**	1	02/13/07	02/13/07	
Sample ID: IQB1216-06 (FSBS0069S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B13136	0.00	NA	**6.94**	1	02/13/07	02/13/07	
Sample ID: IQB1216-07 (FSBS0070S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B13136	0.00	NA	**6.61**	1	02/13/07	02/13/07	
Sample ID: IQB1216-08 (FSBS0070S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B13136	0.00	NA	**6.98**	1	02/13/07	02/13/07	
Sample ID: IQB1216-02 (FSBS0005S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B21099	0.80	4.0	ND	1	02/21/07	02/21/07	
Sample ID: IQB1216-03 (FSBS0006S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B21099	0.80	4.0	ND	1	02/21/07	02/21/07	
Sample ID: IQB1216-04 (FSBS0007S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B21099	0.80	4.0	ND	1	02/21/07	02/21/07	
Sample ID: IQB1216-06 (FSBS0069S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B21099	0.80	4.0	ND	1	02/21/07	02/21/07	
Sample ID: IQB1216-07 (FSBS0070S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B21099	0.80	4.0	ND	1	02/21/07	02/21/07	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1216

Sampled: 02/12/07
Received: 02/13/07

POLYCHLORINATED BIPHENYLS (EPA 3545/8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1216-01 (FSBS0004S01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B14097	17	57	ND	1	02/14/07	02/15/07	
Aroclor 1221	EPA 8082	7B14097	17	57	ND	1	02/14/07	02/15/07	
Aroclor 1232	EPA 8082	7B14097	11	57	ND	1	02/14/07	02/15/07	
Aroclor 1242	EPA 8082	7B14097	11	57	ND	1	02/14/07	02/15/07	
Aroclor 1248	EPA 8082	7B14097	11	57	ND	1	02/14/07	02/15/07	
Aroclor 1254	EPA 8082	7B14097	11	57	ND	1	02/14/07	02/15/07	
Aroclor 1260	EPA 8082	7B14097	11	57	ND	1	02/14/07	02/15/07	
Surrogate: Decachlorobiphenyl (45-120%)					*90 %*				
Sample ID: IQB1216-02 (FSBS0005S01 - Soil)									**RL1**
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B14097	37	120	ND	2	02/14/07	02/15/07	
Aroclor 1221	EPA 8082	7B14097	37	120	ND	2	02/14/07	02/15/07	
Aroclor 1232	EPA 8082	7B14097	24	120	ND	2	02/14/07	02/15/07	
Aroclor 1242	EPA 8082	7B14097	24	120	ND	2	02/14/07	02/15/07	
Aroclor 1248	EPA 8082	7B14097	24	120	ND	2	02/14/07	02/15/07	
Aroclor 1254	EPA 8082	7B14097	24	120	ND	2	02/14/07	02/15/07	
Aroclor 1260	EPA 8082	7B14097	24	120	ND	2	02/14/07	02/15/07	
Surrogate: Decachlorobiphenyl (45-120%)					*93 %*				
Sample ID: IQB1216-03 (FSBS0006S01 - Soil)									**RL1**
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B14097	37	120	ND	1.99	02/14/07	02/15/07	
Aroclor 1221	EPA 8082	7B14097	37	120	ND	1.99	02/14/07	02/15/07	
Aroclor 1232	EPA 8082	7B14097	25	120	ND	1.99	02/14/07	02/15/07	
Aroclor 1242	EPA 8082	7B14097	25	120	ND	1.99	02/14/07	02/15/07	
Aroclor 1248	EPA 8082	7B14097	25	120	ND	1.99	02/14/07	02/15/07	
Aroclor 1254	EPA 8082	7B14097	25	120	ND	1.99	02/14/07	02/15/07	
Aroclor 1260	EPA 8082	7B14097	25	120	ND	1.99	02/14/07	02/15/07	
Surrogate: Decachlorobiphenyl (45-120%)					*84 %*				

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Level II

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1216

Sampled: 02/12/07
Received: 02/13/07

POLYCHLORINATED BIPHENYLS (EPA 3545/8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1216-04 (FSBS0007S01 - Soil)									**RL1**
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B14097	37	120	ND	1.97	02/14/07	02/15/07	
Aroclor 1221	EPA 8082	7B14097	37	120	ND	1.97	02/14/07	02/15/07	
Aroclor 1232	EPA 8082	7B14097	25	120	ND	1.97	02/14/07	02/15/07	
Aroclor 1242	EPA 8082	7B14097	25	120	ND	1.97	02/14/07	02/15/07	
Aroclor 1248	EPA 8082	7B14097	25	120	ND	1.97	02/14/07	02/15/07	
Aroclor 1254	EPA 8082	7B14097	25	120	ND	1.97	02/14/07	02/15/07	
Aroclor 1260	EPA 8082	7B14097	25	120	ND	1.97	02/14/07	02/15/07	
Surrogate: Decachlorobiphenyl (45-120%)					*81 %*				
Sample ID: IQB1216-06 (FSBS0069S01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B14097	17	56	ND	0.999	02/14/07	02/15/07	
Aroclor 1221	EPA 8082	7B14097	17	56	ND	0.999	02/14/07	02/15/07	
Aroclor 1232	EPA 8082	7B14097	11	56	ND	0.999	02/14/07	02/15/07	
Aroclor 1242	EPA 8082	7B14097	11	56	ND	0.999	02/14/07	02/15/07	
Aroclor 1248	EPA 8082	7B14097	11	56	ND	0.999	02/14/07	02/15/07	
Aroclor 1254	EPA 8082	7B14097	11	56	ND	0.999	02/14/07	02/15/07	
Aroclor 1260	EPA 8082	7B14097	11	56	ND	0.999	02/14/07	02/15/07	
Surrogate: Decachlorobiphenyl (45-120%)					*90 %*				
Sample ID: IQB1216-07 (FSBS0070S01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B14097	16	53	ND	0.998	02/14/07	02/15/07	
Aroclor 1221	EPA 8082	7B14097	16	53	ND	0.998	02/14/07	02/15/07	
Aroclor 1232	EPA 8082	7B14097	11	53	ND	0.998	02/14/07	02/15/07	
Aroclor 1242	EPA 8082	7B14097	11	53	ND	0.998	02/14/07	02/15/07	
Aroclor 1248	EPA 8082	7B14097	11	53	ND	0.998	02/14/07	02/15/07	
Aroclor 1254	EPA 8082	7B14097	11	53	ND	0.998	02/14/07	02/15/07	
Aroclor 1260	EPA 8082	7B14097	11	53	ND	0.998	02/14/07	02/15/07	
Surrogate: Decachlorobiphenyl (45-120%)					*95 %*				

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Level V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQB1487

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	IQB1487
Project Manager:	Dixie Hambrick
Matrix:	Soil
QC Level:	V
No. of Samples:	12
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample name	Matrix Type	Collection Date	Method
FSBS0014S01	IQB1487-11	N/A	Soil	13-Feb-07	9045C
FSBS0014S02	IQB1487-13	N/A	Soil	13-Feb-07	9045C
FSBS0017S01	IQB1487-14	N/A	Soil	13-Feb-07	314.0-DI WET
FSBS0018S01	IQB1487-12	N/A	Soil	13-Feb-07	314.0-DI WET
FSBS0064S01	IQB1487-07	N/A	Soil	13-Feb-07	314.0-DI WET
FSBS0065S01	IQB1487-06	N/A	Soil	13-Feb-07	314.0-DI WET
FSBS0066D01	IQB1487-03	N/A	Soil	13-Feb-07	1613B, 314.0-DI WET, 6010B, 6020, 7471A, 8082, 9045C
FSBS0066S01	IQB1487-04	N/A	Soil	13-Feb-07	1613B, 314.0-DI WET, 6010B, 6020, 7471A, 8082, 9045C
FSBS0066S02	IQB1487-05	N/A	Soil	13-Feb-07	9045C
FSBS0067S01	IQB1487-01	N/A	Soil	13-Feb-07	1613B, 314.0-DI WET, 6010B, 6020, 7471A, 8082, 9045C
FSBS0067S02	IQB1487-02	N/A	Soil	13-Feb-07	9045C
FSBS0068S01	IQB1487-10	N/A	Soil	13-Feb-07	9045C

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present. Not applicable.	
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight
Date Reviewed: March 26, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (8/02).

- Holding Times: Extraction and analytical holding times were met. The soil samples were extracted and analyzed within one year of collection.

- Instrument Performance: Review is not applicable at a level V validation.

- Calibration: Review is not applicable at a level V validation.

- Blanks: The method blank had detects for OCDD, 2,3,4,7,8-PeCDF, and total PeCDFs above the EDL; however, sample qualification was not required.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: There were numerous detects in the field blank, BLQW0018F01 (IQB1202), and the equipment rinsate, FSQW0002E01 (IQB2570). The detects for OCDD in sample FSBS0067S01 and 1,2,3,7,8-PeCDF in sample FSBS0066S01 were qualified as estimated, "J."

    - Field Duplicates: Samples FSBS0066S01 and FSBS0066D01 were identified as the field duplicate pair for this SDG. There were 13 common detects above the EDL with calculated RPDs >100% for most compounds. There were 12 additional compounds reported in FSBS0066S01 only.

- Internal Standards Performance: Internal standard recoveries are not routinely evaluated at a Level V validation; however, the recoveries were reported on the sample result summaries. The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.

- Compound Identification: Review is not applicable at a level V validation. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. A confirmation

analysis was not performed for the 2,3,7,8-TCDF detect reported in the site sample; therefore, the result for 2,3,7,8-TCDF was qualified as estimated, "J."

- Compound Quantification and Reported Detection Limits: Review is not applicable at a level V validation. The laboratory calculated and reported compound-specific detection limits. The detect for OCDD in sample FSBS0066S01 exceeded the upper limit of the calibration; therefore the result for OCDD was qualified as estimated, "J," in the site sample. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Nondetects are valid to the estimated detection limit (EDL).

B. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: Patti Meeks
Date Reviewed: 3/26/07

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B, 6020, 7470A/7471A*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.

- Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Method blanks had no applicable detects. Boron was detected in CCBs at 14.1 and 10.5 µg/L; therefore, all boron detects were qualified as estimated, "UJ."

- Interference Check Samples: Not applicable at a Level V validation.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on FSBS0067S01. Antimony was recovered below 30% in both the MS and the MSD and barium, copper, selenium, and zinc were recovered below the laboratory-established control limit in both the MS and the MSD. These compounds were qualified as estimated, "J."

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: There were no detects in the field blank, BLQW0018F01 (IQB1202), or the equipment rinsate, FSQW0002E01 (IQB2570). It should be noted that the equipment rinsate was not analyzed for aluminum, boron, lithium, potassium, sodium, or zirconium.

    - Field Duplicates: Samples FSBS0066S01 and FSBS0066D01 were identified as field duplicates. Silver was detected in the primary sample but was not detected in the duplicate and the RPD for lead was 125%. All remaining detects were in common and all other RPDs were ≤100%.

C. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: 3/26/07

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the method-established QC limits of 85-115%.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: Recoveries and the RPD were within method-established QC limits of 80-120% and ≤15%, respectively.

- Sample Result Verification: The sample results reported on the result summary forms were verified against the raw data. No transcription errors or calculation errors were noted. The confirmation spike for FSBS0067S01 was below the control limit at 67%; therefore, perchlorate detected in the sample was qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Perchlorate was not detected in the field blank, BLQW0018F01 (IQB1202), or the equipment rinsate, FSQW0002E01 (IQB1486).

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

D. EPA Method 8082 – PCBs

Reviewed By: L. Calvin
Date Reviewed: March 28, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 8082*, and the *National Functional Guidelines for Organic Data Review* (2/94).

- Holding Times: Extraction and analytical holding times were met. The soil samples were extracted within 14 days of collection and analyzed within 40 days of extraction.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the samples of this SDG.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: The field blank BLQW0018F01 (IQB1202) and the equipment rinsate FSQW0002E01 (IQB2570) had no reported target compound detects above the MDL.

- Field Duplicates: Samples FSBS0066S01 and FSBS0066D01 had common detects below the reporting limit for Aroclors 1254 and 1260 with RPDs of <100%.

- Compound Identification: Review is not applicable at a Level V validation.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. The laboratory flagged results for Aroclors 1254 and 1260 in samples FSBS0066D01 and FSBS0066S01 to indicate a possible high bias due to coelution of Aroclors 1254 and 1260. Those results were qualified as estimated, "J," in both samples. Results reported between the MDL and the reporting limit were qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

E. VARIOUS EPA METHODS—General Minerals

Reviewed By: Patti Meeks
Date Reviewed: 3/26/07

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 9045*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 24 hours from preparation for pH, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Not applicable to this analysis.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.

- Sample Result Verification: Review is not applicable at a Level V validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: Not applicable to this analysis.

- Field Duplicates: Samples FSBS0066S01 and FSBS0066D01 were identified as field duplicate samples. The RPD was ≤100%.

Method 1613

IQB1487-01 FSBS00675O1

Test America

Analytical Data Summary Sheet

Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.188	0.927			
1,2,3,7,8-PeCDD	ND	0.159	4.63			
1,2,3,4,7,8-HxCDD	ND	0.231	4.63			
1,2,3,6,7,8-HxCDD	ND	0.247	4.63			
1,2,3,7,8,9-HxCDD	0.261	0.237	4.63	36:56	1.20	A
1,2,3,4,6,7,8-HpCDD	0.569	0.346	4.63	39:57	0.94	A
OCDD	5.58	0.616	9.27	44:08	0.92	A
2,3,7,8-TCDF	0.198	0.167	0.927	30:26	0.86	A
1,2,3,7,8-PeCDF	ND	0.116	4.63			
2,3,4,7,8-PeCDF	ND	0.120	4.63			
1,2,3,4,7,8-HxCDF	ND	0.150	4.63			
1,2,3,6,7,8-HxCDF	ND	0.151	4.63			
2,3,4,6,7,8-HxCDF	ND	0.148	4.63			
1,2,3,7,8,9-HxCDF	ND	0.195	4.63			
1,2,3,4,6,7,8-HpCDF	ND	0.224	4.63			
1,2,3,4,7,8,9-HpCDF	ND	0.331	4.63			
OCDF	ND	0.540	9.27			
Total TCDDs	ND	0.188	0.927			
Total PeCDDs	ND	0.159	4.63			
Total HxCDDs	0.261	0.238	4.63			A
Total HpCDDs	1.31	0.346	4.63			A
Total TCDFs	0.434	0.167	0.927			A
Total PeCDFs	ND	0.118	4.63			
Total HxCDFs	ND	0.160	4.63			
Total HpCDFs	ND	0.271	4.63			
ITEF TEQ (ND=0)	0.0572					
ITEF TEQ (ND=½)	0.283					

Client Information			**Sample Information**		
Project Name:	IQB1487		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	IQB1487-01		Weight / Volume:	12.38	Grams
			Solids / Lipids:	87.2	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14123	
Project ID:	G579-225				
Sample ID:	G579-225-1B		Filename:	a22feb07a-10	
Collection Date/Time:	13-Feb-07	08:40	Retchk:	a22feb07a-1	
Receipt Date:	16-Feb-07	11:55	Begin ConCal:	a22feb07a-1	
Extraction Date:	19-Feb-07				
Analysis Date:	22-Feb-07	23:36	Initial Cal:	m1613-071006e	

Level V

PM 3/28/07

Method 1613

IQB1487-03 FSBS00166D01

Test America

Analytical Data Summary Sheet

Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.218	0.889			
1,2,3,7,8-PeCDD	ND	0.228	4.45			
1,2,3,4,7,8-HxCDD	ND	0.269	4.45			
1,2,3,6,7,8-HxCDD	1.07	0.284	4.45	36:41	1.15	A
1,2,3,7,8,9-HxCDD	0.985	0.275	4.45	36:56	1.18	A
1,2,3,4,6,7,8-HpCDD	24.2	0.458	4.45	39:57	1.04	
OCDD	648	0.554	8.89	44:08	0.89	
2,3,7,8-TCDF	ND	0.223	0.889			
1,2,3,7,8-PeCDF	ND	0.137	4.45			
2,3,4,7,8-PeCDF	ND	0.146	4.45			
1,2,3,4,7,8-HxCDF	ND	0.183	4.45			
1,2,3,6,7,8-HxCDF	ND	0.178	4.45			
2,3,4,6,7,8-HxCDF	ND	0.184	4.45			
1,2,3,7,8,9-HxCDF	0.343	0.237	4.45	37:15	1.19	A
1,2,3,4,6,7,8-HpCDF	1.56	0.226	4.45	38:43	1.09	A
1,2,3,4,7,8,9-HpCDF	ND	0.354	4.45			
OCDF	4.45	0.481	8.89	44:26	0.91	A
Total TCDDs	ND	0.218	0.889			
Total PeCDDs	ND	0.228	4.45			
Total HxCDDs	7.56	0.276	4.45			
Total HpCDDs	125	0.458	4.45			
Total TCDFs	0.365	0.223	0.889			A
Total PeCDFs	0.565	0.142	4.45			A
Total HxCDFs	3.12	0.194	4.45			A
Total HpCDFs	4.94	0.283	4.45			
ITEF TEQ (ND=0)	1.15					
ITEF TEQ (ND=½)	1.41					

Client Information

Project Name:	IQB1487
Sample ID:	IQB1487-03

Laboratory Information

Project ID:	G579-225	
Sample ID:	G579-225-2B	
Collection Date/Time:	13-Feb-07	09:27
Receipt Date:	16-Feb-07	11:55
Extraction Date:	19-Feb-07	
Analysis Date:	23-Feb-07	0:24

Sample Information

Report Basis:	Dry Weight	
Matrix:	Soil	
Weight / Volume:	12.60	Grams
Solids / Lipids:	89.3	%
Original pH :	NA	
Batch ID:	WG14123	
Filename:	a22feb07a-11	
Retchk:	a22feb07a-1	
Begin ConCal:	a22feb07a-1	
Initial Cal:	m1613-071006e	

Method 1613

IQB1487-04 FSBS0066501

Test America

Analytical Data Summary Sheet

Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.220	0.911			
1,2,3,7,8-PeCDD	0.720	0.217	4.56	34:03	1.34	A
1,2,3,4,7,8-HxCDD	1.48	0.428	4.56	36:36	1.39	A
1,2,3,6,7,8-HxCDD	8.56	0.433	4.56	36:42	1.29	
1,2,3,7,8,9-HxCDD	2.88	0.428	4.56	36:56	1.34	A
1,2,3,4,6,7,8-HpCDD	218	0.300	4.56	39:57	1.04	
OCDD	4890	0.500	9.11	44:08	0.89	E
2,3,7,8-TCDF	0.915	0.276	0.911	30:26	0.77	
1,2,3,7,8-PeCDF	0.722	0.139	4.56	33:15	1.58	A
2,3,4,7,8-PeCDF	0.848	0.147	4.56	33:51	1.4	A
1,2,3,4,7,8-HxCDF	1.64	0.272	4.56	35:54	1.28	A
1,2,3,6,7,8-HxCDF	0.733	0.281	4.56	36:00	1.27	A
2,3,4,6,7,8-HxCDF	0.950	0.284	4.56	36:29	1.30	A
1,2,3,7,8,9-HxCDF	0.893	0.347	4.56	37:16	1.26	A
1,2,3,4,6,7,8-HpCDF	20.1	0.356	4.56	38:43	1.07	
1,2,3,4,7,8,9-HpCDF	1.23	0.542	4.56	40:37	1.09	A
OCDF	41.6	0.441	9.11	44:25	0.87	
Total TCDDs	0.434	0.220	0.911			A
Total PeCDDs	6.06	0.217	4.56			
Total HxCDDs	64.5	0.430	4.56			
Total HpCDDs	1010	0.300	4.56			
Total TCDFs	4.04	0.276	0.911			
Total PeCDFs	7.99	0.143	4.56			
Total HxCDFs	37.5	0.294	4.56			
Total HpCDFs	63.8	0.437	4.56			
ITEF TEQ (ND=0)	9.95					
ITEF TEQ (ND=½)	10.1					

Client Information			**Sample Information**		
Project Name:	IQB1487		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	IQB1487-04		Weight / Volume:	12.71	Grams
			Solids / Lipids:	86.3	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14123	
Project ID:	G579-225				
Sample ID:	G579-225-3B		Filename:	a22feb07a-12	
Collection Date/Time:	13-Feb-07	09:27	Retchk:	a22feb07a-1	
Receipt Date:	16-Feb-07	11:55	Begin ConCal:	a22feb07a-1	
Extraction Date:	19-Feb-07				
Analysis Date:	23-Feb-07	1:12	Initial Cal:	m1613-071006e	

Level V

PM 3/28/07

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1487

Sampled: 02/13/07
Received: 02/14/07

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1487-01 (FSBS0067S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B15107	5.8	12	**14000**	1	02/15/07	02/15/07	MHA
Antimony J/Q	EPA 6020	7B15106	0.035	1.2	**0.11**	1	02/15/07	02/16/07	M2, J
Arsenic	EPA 6020	7B15106	0.29	0.58	**2.5**	1	02/15/07	02/16/07	
Barium J/Q	EPA 6020	7B15106	0.092	0.58	**93**	1	02/15/07	02/16/07	M2
Beryllium	EPA 6020	7B15106	0.046	0.35	**0.55**	1	02/15/07	02/16/07	
Boron UJ/B	EPA 6010B	7B15107	1.2	5.8	**4.0**	1	02/15/07	02/15/07	J
Cadmium	EPA 6020	7B15106	0.029	0.58	**0.23**	1	02/15/07	02/16/07	J
Chromium	EPA 6020	7B15106	0.40	1.2	**19**	1	02/15/07	02/16/07	
Cobalt	EPA 6020	7B15106	0.092	0.58	**5.5**	1	02/15/07	02/16/07	
Copper J/Q	EPA 6020	7B15106	0.23	1.2	**8.9**	1	02/15/07	02/16/07	M2
Lead	EPA 6020	7B15106	0.058	0.58	**4.5**	1	02/15/07	02/16/07	
Lithium	EPA 6010B	7B15107	4.4	7.2	**23**	1	02/15/07	02/15/07	
Molybdenum	EPA 6020	7B15106	0.12	1.2	**0.56**	1	02/15/07	02/16/07	J
Nickel	EPA 6020	7B15106	0.52	1.2	**11**	1	02/15/07	02/16/07	
Potassium	EPA 6010B	7B15107	22	58	**3500**	1	02/15/07	02/15/07	MHA
Selenium J/Q	EPA 6020	7B15106	0.23	1.2	**0.30**	1	02/15/07	02/16/07	M2, J
Silver U	EPA 6020	7B15106	0.058	0.58	ND	1	02/15/07	02/16/07	
Sodium	EPA 6010B	7B15107	28	58	**73**	1	02/15/07	02/15/07	
Thallium	EPA 6020	7B15106	0.12	0.58	**0.27**	1	02/15/07	02/16/07	J
Vanadium	EPA 6020	7B15106	0.46	1.2	**34**	1	02/15/07	02/16/07	
Zinc J/Q	EPA 6020	7B15106	1.5	12	**48**	1	02/15/07	02/16/07	M2
Zirconium U	EPA 6010B	7B16119	1.7	29	ND	1	02/16/07	02/16/07	

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7021518
Project ID: IQB1487

Date Received: 02/15/07 10:10
Date Reported: 03/02/07 16:55

FSBS0067501

IQB1487-01 7021518-01 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**86.9**	% by Weight	0.100	1	Gravimetric	W7B0880	02/22/07	02/28/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.012**	0.00075	mg/kg dry	0.012	1	EPA 7471A	W7B0623	02/15/07	02/22/07 jl	

* Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1487

Sampled: 02/13/07
Received: 02/14/07

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1487-03 (FSBS0066D01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B15107	6.1	12	**14000**	1	02/15/07	02/15/07	
Antimony J/Q	EPA 6020	7B15106	0.036	1.2	**0.17**	1	02/15/07	02/15/07	J
Arsenic	EPA 6020	7B15106	0.30	0.61	**2.4**	1	02/15/07	02/15/07	
Barium J/Q	EPA 6020	7B15106	0.097	0.61	**88**	1	02/15/07	02/15/07	
Beryllium	EPA 6020	7B15106	0.049	0.36	**0.54**	1	02/15/07	02/15/07	
Boron W/B	EPA 6010B	7B15107	1.2	6.1	**5.2**	1	02/15/07	02/15/07	J
Cadmium	EPA 6020	7B15106	0.030	0.61	**0.23**	1	02/15/07	02/15/07	J
Chromium	EPA 6020	7B15106	0.43	1.2	**18**	1	02/15/07	02/15/07	
Cobalt	EPA 6020	7B15106	0.097	0.61	**5.8**	1	02/15/07	02/15/07	
Copper J/Q	EPA 6020	7B15106	0.24	1.2	**8.1**	1	02/15/07	02/15/07	
Lead	EPA 6020	7B15106	0.061	0.61	**6.0**	1	02/15/07	02/15/07	
Lithium	EPA 6010B	7B15107	4.6	7.7	**20**	1	02/15/07	02/15/07	
Molybdenum	EPA 6020	7B15106	0.12	1.2	**0.71**	1	02/15/07	02/15/07	J
Nickel	EPA 6020	7B15106	0.55	1.2	**11**	1	02/15/07	02/15/07	
Potassium	EPA 6010B	7B15107	23	61	**3300**	1	02/15/07	02/15/07	
Selenium J/Q	EPA 6020	7B15106	0.24	1.2	**0.43**	1	02/15/07	02/15/07	J
Silver U	EPA 6020	7B15106	0.061	0.61	ND	1	02/15/07	02/15/07	
Sodium	EPA 6010B	7B15107	29	61	**67**	1	02/15/07	02/15/07	
Thallium	EPA 6020	7B15106	0.12	0.61	**0.36**	1	02/15/07	02/15/07	J
Vanadium	EPA 6020	7B15106	0.49	1.2	**31**	1	02/15/07	02/15/07	
Zinc J/Q	EPA 6020	7B15106	1.6	12	**41**	1	02/15/07	02/15/07	
Zirconium U	EPA 6010B	7B16119	1.8	30	ND	1	02/16/07	02/16/07	

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7021518
Project ID: IQB1487

Date Received: 02/15/07 10:10
Date Reported: 03/02/07 16:55

FSBS0666D01

IQB1487-03 7021518-02 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**82.3**	% by Weight	0.100	1	Gravimetric	W7B0880	02/22/07	02/28/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.019**	0.00079	mg/kg dry	0.012	1	EPA 7471A	W7B0623	02/15/07	02/22/07 jl	

* Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1487

Sampled: 02/13/07
Received: 02/14/07

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1487-04 (FSBS0066S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B15107	5.6	11	**12000**	0.995	02/15/07	02/15/07	
Antimony J/Q	EPA 6020	7B15106	0.034	1.1	**0.25**	0.995	02/15/07	02/15/07	J
Arsenic	EPA 6020	7B15106	0.28	0.56	**2.1**	0.995	02/15/07	02/15/07	
Barium J/Q	EPA 6020	7B15106	0.090	0.56	**82**	0.995	02/15/07	02/15/07	
Beryllium	EPA 6020	7B15106	0.045	0.34	**0.42**	0.995	02/15/07	02/15/07	
Boron UJ/B	EPA 6010B	7B15107	1.1	5.6	**5.0**	0.995	02/15/07	02/15/07	J
Cadmium	EPA 6020	7B15106	0.028	0.56	**0.25**	0.995	02/15/07	02/15/07	J
Chromium	EPA 6020	7B15106	0.39	1.1	**16**	0.995	02/15/07	02/15/07	
Cobalt	EPA 6020	7B15106	0.090	0.56	**4.9**	0.995	02/15/07	02/15/07	
Copper J/Q	EPA 6020	7B15106	0.22	1.1	**8.2**	0.995	02/15/07	02/15/07	
Lead	EPA 6020	7B15106	0.056	0.56	**26**	0.995	02/15/07	02/15/07	
Lithium	EPA 6010B	7B15107	4.3	7.1	**18**	0.995	02/15/07	02/15/07	
Molybdenum	EPA 6020	7B15106	0.11	1.1	**0.53**	0.995	02/15/07	02/15/07	J
Nickel	EPA 6020	7B15106	0.50	1.1	**9.9**	0.995	02/15/07	02/15/07	
Potassium	EPA 6010B	7B15107	21	56	**3000**	0.995	02/15/07	02/15/07	
Selenium J/Q	EPA 6020	7B15106	0.22	1.1	**0.35**	0.995	02/15/07	02/15/07	J
Silver	EPA 6020	7B15106	0.056	0.56	**0.060**	0.995	02/15/07	02/15/07	J
Sodium	EPA 6010B	7B15107	27	56	**56**	0.995	02/15/07	02/15/07	
Thallium	EPA 6020	7B15106	0.11	0.56	**0.28**	0.995	02/15/07	02/15/07	J
Vanadium	EPA 6020	7B15106	0.45	1.1	**27**	0.995	02/15/07	02/15/07	
Zinc J/Q	EPA 6020	7B15106	1.5	11	**47**	0.995	02/15/07	02/15/07	
Zirconium U	EPA 6010B	7B16119	1.7	28	ND	1	02/16/07	02/16/07	

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7021518
Project ID: IQB1487

Date Received: 02/15/07 10:10
Date Reported: 03/02/07 16:55

FSBS0066501

IQB1487-04 7021518-03 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**88.9**	% by Weight	0.100	1	Gravimetric	W7B0880	02/22/07	02/28/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.050**	0.00073	mg/kg dry	0.011	1	EPA 7471A	W7B0623	02/15/07	02/22/07 jl	

*Analysis not validated

PM 3/26/07

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1487

Sampled: 02/13/07
Received: 02/14/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1487-01 (FSBS0067S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B16117	0.10	0.10	**87**	1	02/16/07	02/19/07	
Sample ID: IQB1487-03 (FSBS0066D01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B16117	0.10	0.10	**82**	1	02/16/07	02/19/07	
Sample ID: IQB1487-04 (FSBS0066S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B16117	0.10	0.10	**89**	1	02/16/07	02/19/07	
Sample ID: IQB1487-01 (FSBS0067S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B15100	0.00	NA	**6.86**	1	02/15/07	02/15/07	
Sample ID: IQB1487-02 (FSBS0067S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B15100	0.00	NA	**6.36**	1	02/15/07	02/15/07	
Sample ID: IQB1487-03 (FSBS0066D01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B15100	0.00	NA	**5.45**	1	02/15/07	02/15/07	
Sample ID: IQB1487-04 (FSBS0066S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B15100	0.00	NA	**5.83**	1	02/15/07	02/15/07	
Sample ID: IQB1487-05 (FSBS0066S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B15100	0.00	NA	**6.61**	1	02/15/07	02/15/07	
Sample ID: IQB1487-10 (FSBS0068S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B15100	0.00	NA	**6.00**	1	02/15/07	02/15/07	
Sample ID: IQB1487-11 (FSBS0014S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B15100	0.00	NA	**5.98**	1	02/15/07	02/15/07	

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1487

Sampled: 02/13/07
Received: 02/14/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1487-13 (FSBS0014S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B15100	0.00	NA	**6.51**	1	02/15/07	02/15/07	
Sample ID: IQB1487-01 (FSBS0067S01 - Soil)									
Reporting Units: ug/l									
Perchlorate J/*III	EPA 314.0 DI-RFI	7B22090	0.80	4.0	**3.3**	1	02/22/07	02/22/07	J
Sample ID: IQB1487-03 (FSBS0066D01 - Soil)									
Reporting Units: ug/l									
U Perchlorate	EPA 314.0 DI-RFI	7B22090	0.80	4.0	ND	1	02/22/07	02/22/07	
Sample ID: IQB1487-04 (FSBS0066S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B22090	0.80	4.0	ND	1	02/22/07	02/22/07	
Sample ID: IQB1487-06 (FSBS0065S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B22090	0.80	4.0	ND	1	02/22/07	02/22/07	
Sample ID: IQB1487-07 (FSBS0064S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B22090	0.80	4.0	ND	1	02/22/07	02/23/07	
Sample ID: IQB1487-12 (FSBS0018S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B22090	0.80	4.0	ND	1	02/22/07	02/23/07	
Sample ID: IQB1487-14 (FSBS0017S01 - Soil)									
Reporting Units: ug/l									
V Perchlorate	EPA 314.0 DI-RFI	7B22090	0.80	4.0	ND	1	02/22/07	02/23/07	

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1487

Sampled: 02/13/07
Received: 02/14/07

POLYCHLORINATED BIPHENYLS (EPA 3545/8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1487-01 (FSBS0067S01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B19093	17	57	ND	0.998	02/19/07	02/20/07	
Aroclor 1221	EPA 8082	7B19093	17	57	ND	0.998	02/19/07	02/20/07	
Aroclor 1232	EPA 8082	7B19093	11	57	ND	0.998	02/19/07	02/20/07	
Aroclor 1242	EPA 8082	7B19093	11	57	ND	0.998	02/19/07	02/20/07	
Aroclor 1248	EPA 8082	7B19093	11	57	ND	0.998	02/19/07	02/20/07	
Aroclor 1254	EPA 8082	7B19093	11	57	ND	0.998	02/19/07	02/20/07	
Aroclor 1260	EPA 8082	7B19093	11	57	ND	0.998	02/19/07	02/20/07	
Surrogate: Decachlorobiphenyl (45-120%)					*110 %*				
Sample ID: IQB1487-03 (FSBS0066D01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B19093	18	61	ND	0.997	02/19/07	02/20/07	
Aroclor 1221	EPA 8082	7B19093	18	61	ND	0.997	02/19/07	02/20/07	
Aroclor 1232	EPA 8082	7B19093	12	61	ND	0.997	02/19/07	02/20/07	
Aroclor 1242	EPA 8082	7B19093	12	61	ND	0.997	02/19/07	02/20/07	
Aroclor 1248	EPA 8082	7B19093	12	61	ND	0.997	02/19/07	02/20/07	
Aroclor 1254 J/*III	EPA 8082	7B19093	12	61	**47**	0.997	02/19/07	02/20/07	J, A-01
Aroclor 1260	EPA 8082	7B19093	12	61	**34**	0.997	02/19/07	02/20/07	A-01, J
Surrogate: Decachlorobiphenyl (45-120%)					*95 %*				
Sample ID: IQB1487-04 (FSBS0066S01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B19093	17	56	ND	1	02/19/07	02/20/07	
Aroclor 1221	EPA 8082	7B19093	17	56	ND	1	02/19/07	02/20/07	
Aroclor 1232	EPA 8082	7B19093	11	56	ND	1	02/19/07	02/20/07	
Aroclor 1242	EPA 8082	7B19093	11	56	ND	1	02/19/07	02/20/07	
Aroclor 1248	EPA 8082	7B19093	11	56	ND	1	02/19/07	02/20/07	
Aroclor 1254 J/*III	EPA 8082	7B19093	11	56	**36**	1	02/19/07	02/20/07	J, A-01
Aroclor 1260	EPA 8082	7B19093	11	56	**13**	1	02/19/07	02/20/07	J, A-01
Surrogate: Decachlorobiphenyl (45-120%)					*107 %*				

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

II NC 05.28.07
Level III

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQB1684

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	IQB1684
Project Manager:	Dixie Hambrick
Matrix:	Soil
QC Level:	V
No. of Samples:	7
No. of Reanalyses/Dilutions:	2
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample name	Matrix Type	Collection Date	Method
FSBS0022S01	IQB1684-02	N/A	Soil	14-Feb-07	314.0-DI WET
FSBS0022S01RE1	IQB1684-02 RE1	N/A	Soil	14-Feb-07	314.0-DI WET
FSBS0022S01RE2	IQB1684-02	D7C080187-01	Soil	14-Feb-07	8321A
FSBS0023S01	IQB1684-04	N/A	Soil	14-Feb-07	314.0-DI WET
FSBS0061S01	IQB1684-09	N/A	Soil	14-Feb-07	314.0-DI WET
FSBS0027S01	IQB1684-12	N/A	Soil	14-Feb-07	314.0-DI WET
FSBS0028S01	IQB1684-14	N/A	Soil	14-Feb-07	314.0-DI WET
FSBS0063S01	IQB1684-16	N/A	Soil	14-Feb-07	9045C
FSBS0015S01	IQB1684-17	N/A	Soil	14-Feb-07	6020, 9045C

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: Patti Meeks
Date Reviewed: March 30, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 6020*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, six months for ICP-MS metals, was met.
- Tuning: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: There were no method blank or CCB detects for arsenic.
- Interference Check Samples: Not applicable.
- Blank Spikes and Laboratory Control Samples: The recovery was within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.
- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
    - Field Blanks and Equipment Rinsates: Field blank BLQW0018F01 (IQB1202) and equipment rinsate FSQW0002E01 (IQB2570) had no detects for arsenic.

- Field Duplicates: There were no field duplicate samples identified for this SDG.

B. EPA METHOD 314.0—Perchlorate

Reviewed By: Patti Meeks
Date Reviewed: March 30, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Methods 314.0 and 8321A*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days, was met.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the method-established QC limits of 85-115%.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed by LC/MS/MS on FSBS0022S01. The recoveries and RPD were within the laboratory-established control limits of 70-130% and ≤20%, respectively.
- Sample Result Verification: The sample results reported on the Form I were verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit.

  Matrix interference was evident in the confirmation spike performed for FSBS0022S01. Instead of a single perchlorate peak, two peaks were visible and the recovery was elevated, at 188%. The laboratory reanalyzed FSBS0022S01 and reported the reanalysis as FSBS0022S01 RE1. The confirmation spike performed for FSBS0022S01 exhibited a single peak at the perchlorate retention time and an acceptable recovery of 90%; however, due to the severity of the matrix interference in the original aliquot, the sample was subcontracted to Severn Trent Laboratory (STL) in Denver for definitive analysis by LC/MS/MS. This result was reported as FSBS0022S01 RE2. As LC/MS/MS is a definitive analysis, the reviewer rejected, "R," the original analysis result, FSBS0022S01, and the first reanalysis result, FSBS0022S01 RE1, in favor of the LC/MS/MS result, FSBS0022S01 RE2.

  A confirmation spike was performed for FSBS0028S01. This recovery was above the control limit at 126%; therefore, perchlorate detected in FSBS0028S01 was qualified as estimated, "J." The reviewer also noted that the ICCS associated with the sample

analyses was recovered above the program control limit at 116%; therefore, perchlorate detected in FSBS0028S01 was qualified as estimated, "J."

Perchlorate was detected below the reporting limit in FSBS0022S01 RE2; therefore, this detect was qualified as estimated, "J."

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This sample in this SDG was identified as a field blank.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. EPA METHOD 9045C—General Minerals

Reviewed By: Patti Meeks
Date Reviewed: March 30, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 9045C*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 24 hours from preparation for pH, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Not applicable to this analysis.

- Blank Spikes and Laboratory Control Samples: Not applicable to this analysis.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.

- Sample Result Verification: Review is not applicable at a Level V validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Not applicable to this analysis.

- Field Duplicates: There were no field duplicate samples identified for this SDG.

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - SSPN
1891263
Report Number: IQB1684

Sampled: 02/14/07
Received: 02/15/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1684-17 (FSBS0015S01 - Soil)									
Reporting Units: mg/kg dry									
Arsenic	EPA 6020	7B22114	0.28	0.55	**13**	1	02/22/07	02/22/07	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street. Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - SSPN
1891263
Report Number: IQB1684

Sampled: 02/14/07
Received: 02/15/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1684-17 (FSBS0015S01 - Soil) - cont.									
Reporting Units: %									
* **Percent Solids**	EPA 160.3 MOD	7B16117	0.10	0.10	**91**	1	02/16/07	02/19/07	
Sample ID: IQB1684-16 (FSBS0063S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B16073	0.00	NA	**7.37**	1	02/16/07	02/16/07	
Sample ID: IQB1684-17 (FSBS0015S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B16073	0.00	NA	**7.33**	1	02/16/07	02/16/07	
Sample ID: IQB1684-02 (FSBS0022S01 - Soil)									
Reporting Units: ug/l									
Perchlorate R/D	EPA 314.0 DI-RFI	7B22090	0.80	4.0	**44**	1	02/22/07	02/23/07	N1
Sample ID: IQB1684-02RE1 (FSBS0022S01 - Soil) FSBS0022S01 RE1									
Reporting Units: ug/l									
Perchlorate R/D	EPA 314.0 DI-RFI	7B22090	0.80	4.0	**19**	1	02/22/07	02/28/07	N1
Sample ID: IQB1684-04 (FSBS0023S01 - Soil)									
Reporting Units: ug/l									
Perchlorate U	EPA 314.0 DI-RFI	7B22090	0.80	4.0	ND	1	02/22/07	02/23/07	
Sample ID: IQB1684-09 (FSBS0061S01 - Soil)									
Reporting Units: ug/l									
Perchlorate U	EPA 314.0 DI-RFI	7B22090	0.80	4.0	ND	1	02/22/07	02/23/07	
Sample ID: IQB1684-12 (FSBS0027S01 - Soil)									
Reporting Units: ug/l									
Perchlorate U	EPA 314.0 DI-RFI	7B22090	0.80	4.0	ND	1	02/22/07	02/23/07	
Sample ID: IQB1684-14 (FSBS0028S01 - Soil)									
Reporting Units: ug/l									
Perchlorate J/*III	EPA 314.0 DI-RFI	7B22090	0.80	4.0	**6.2**	1	02/22/07	02/23/07	

* Analysis not validated

LEVEL V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

EXECUTIVE SUMMARY - Detection Highlights

D7C080187

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
FSBS0022S01 RE2				
FSBS0022S01 02/14/07 09:20 001				
Perchlorate J/*III	0.056 J	0.20	ug/L	SW846 8321A

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQB1815

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	IQB1815
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	4
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
FSBS0011D01	IQB1815-01	N/A	Soil	2/16/2007 8:36:00 AM	314.0-DI WET, 6010B, 6020, 7471A, 8015B, 8082, 8260B, 8270C SIM, 9045C
FSBS0011S01	IQB1815-02	N/A	Soil	2/16/2007 8:36:00 AM	314.0-DI WET, 6010B, 6020, 7471A, 8015B, 8082, 8260B, 8270C SIM, 9045C
FSBS0012S01	IQB1815-03	N/A	Soil	2/16/2007 9:21:00 AM	314.0-DI WET, 6010B, 6020, 7471A, 8015B, 8082, 8260B, 8270C SIM, 9045C
FSBS0013S01	IQB1815-04	N/A	Soil	2/16/2007 9:46:00 AM	9045C

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory above the temperature limits of 4°C ±2°C at 16°C. As the samples were transported directly from the field to the laboratory, the samples did not have sufficient time to cool. Qualifications were not assigned for the elevated cooler temperature. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. Information regarding lack of headspace in the VOA vials was not provided. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present. Not applicable.	
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: April 3, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B, 6020, 7470A/7471A*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.

- Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Method blanks and CCBs had no applicable detects.

- Interference Check Samples: Review is not applicable at a Level V validation.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on FSBS0012S01 for mercury only; however, as the native concentration of mercury was ≥4× the spike concentration, the results were not assessed.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: There were no detects in field blank BLQW0018F01 (IQB1202) or equipment rinsate FSQW0002E01 (IQB2570).

- Field Duplicates: Samples FSBS0011S01 and FSBS0011D01 were identified as field duplicate samples. Boron was detected in the primary sample but was not detected in the duplicate. All remaining detects were in common and all RPDs were ≤100%.

B. EPA METHOD 8270C SIM—Polynuclear Aromatic Hydrocarbons (PAHs)

Reviewed By: L. Calvin
Date Reviewed: March 31, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0), EPA Method 8270C*, and the *National Functional Guidelines for Organic Data Review* (2/94).

- Holding Times: Extraction and analytical holding times were met. The soil samples were extracted within 14 days of collection and analyzed within 40 days of extraction.

- GC/MS Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: Recoveries were within laboratory-established QC limits. RPDs for 2-nitrophenol, 4-chloro-3-methylphenol, di-n-butyl phthalate, and dimethyl phthalate exceeded the QC limit of ≤20%. Qualifications were not assigned.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Field blank BLQW0018F01 (IQB1202) had a detect between the MDL and the reporting limit for naphthalene at 0.13 µg/L. Naphthalene was not detected in the associated site samples. Equipment rinsate FSQW0002E01 (IQB2570) had no target compounds detected above the MDL.

- Field Duplicates: Field duplicates FSB0011S01 and FSBS0011D01 had common detects for di-n-butyl phthalate with an RPD of <100%. Remaining detects were between the MDL and the reporting limit, and were not further evaluated. The pair was considered to be in agreement.

- Internal Standards Performance: Review is not applicable at a Level V validation.

- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for PAH compounds and added phthalates.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. Any results reported between the MDL and the reporting limit were qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.

- System Performance: Review is not applicable at a Level V validation.

C. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: April 3, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: The recovery was within the method-established QC limits of 85-115%.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on FSBS0012S01. Recoveries and RPD were within method-established QC limits of 80-120% and ≤15%, respectively.

- Sample Result Verification: The sample results reported on the sample result summaries were verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Perchlorate was not detected in field blank BLQW0018F01 (IQB1202) or equipment rinsate FSBS0002E01 (IQB2570).

    - Field Duplicates: Samples FSBS0011S01 and FSBS0011D01 were identified as field duplicate samples. Perchlorate was not detected in either sample.

D. EPA METHOD 8082—PCBs

Reviewed By: K. Shadowlight
Date Reviewed: March 29, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 8082*, and the *National Functional Guidelines for Organic Data Review* (2/94).

- Holding Times: Extraction and analytical holding times were met. The soil samples were extracted within 14 days of collection and analyzed within 40 days of extraction.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for sample FSBS0012S01. Recoveries and RPDs were within laboratory-established QC limits.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: There were no target compounds detected in the field blank, BLQW0018F01 (IQB1202), or equipment rinsate, FSQW0002E01 (IQB2570).

  - Field Duplicates: Samples FSBS0011S01 and FSBS0011D01 were identified as field duplicate samples. There was a common detect for Aroclor 1254 with an RPD ≤100%..

- Compound Identification: Review is not applicable at a Level V validation.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. Any results reported between the MDL and the reporting limit were qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

E. EPA METHOD 8015B—Extractable Total Fuel Hydrocarbons (EFHs)

Reviewed By: K. Shadowlight
Date Reviewed: March 29, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Total Fuel Hydrocarbons (DVP-8, Rev. 0), EPA Method 8015B*, and the *National Functional Guidelines for Organic Data Review* (2/94).

- Holding Times: Extraction and analytical holding times were met. The soil samples were extracted within 14 days of collection and analyzed within 40 days of extraction.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: The recovery was within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for sample FSBS0012S01. Recoveries and the RPD were within laboratory-established QC limits.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

  - Field Blanks and Equipment Rinsates: There were no target compounds detected in the field blank, BLQW0018F01 (IQB1202), or equipment rinsate, FSQW0002E01 (IQB2570).

  - Field Duplicates: Samples FSBS0011S01 and FSBS0011D01 were identified as the field duplicate pair for this SDG. There were no target compounds reported in the pair.

- Compound Identification: Review is not applicable at a Level V validation. Four EFH hydrocarbon ranges were reported: C8-C11, C12-C14, C15-C20, and C21-C30.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. Reported nondetects are valid to the reporting limit.

F. EPA METHOD 8260B—Volatile Organic Compounds (VOCs)

Reviewed By: L. Calvin
Date Reviewed: March 31, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), EPA Method 8260B*, and the *National Functional Guidelines for Organic Data Review* (2/94).

- Holding Times: Analytical holding times were met. The soil samples were analyzed within 14 days of collection.

- GC/MS Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: The method blank had no reported target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Acetone was recovered above the QC limits in the blank spike; however, as acetone was not detected in the associated samples, qualification was unnecessary. Remaining recoveries were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on a sample from this SDG.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

  - Trip Blanks: Trip blank sample FSQW0003T01 had no reported target compound detects above the MDL.

- Field Blanks and Equipment Rinsates: Field blank BLQW0018F01 (IQB1202) and equipment rinsate FSQW0002E01 (IQB2570) had no reported target compound detects above the MDL.

- Field Duplicates: Field duplicates FSB0011S01 and FSBS0011D01 had no reported target compound detects above the MDL. The pair was considered to be in agreement.

- Internal Standards Performance: Review is not applicable at a Level V validation.

- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for volatile target compounds by Method 8260B. Added compounds 2-chloro-1,1,1-trifluoroethane and chlorotrifluoroethene were not calibrated for and were searched for only as TICs; therefore, these nondetected results were qualifications were qualified as estimated, "UJ."

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. Any results reported between the MDL and the reporting limit were qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.

- System Performance: Review is not applicable at a Level V validation.

G. EPA METHOD 9045C—General Minerals

Reviewed By: P. Meeks
Date Reviewed: April 3, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 9045C*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 24 hours from preparation for pH, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Not applicable to this analysis.

- Blank Spikes and Laboratory Control Samples: Not applicable to this analysis.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on FSBS0013S01 and the RPD was within the laboratory-established control limit of ≤5%.

- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.

- Sample Result Verification: Review is not applicable at a Level V validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Not applicable to this analysis.

    - Field Duplicates: Samples FSBS0011S01 and FSBS0011D01 were identified as field duplicate samples. The RPD was ≤100%.

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-01 (FSBS0011D01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B22115	6.0	12	**19000**	1	02/22/07	02/23/07	
Antimony	EPA 6020	7B22114	0.036	1.2	**0.14**	1	02/22/07	02/22/07	J
Arsenic	EPA 6020	7B22114	0.30	0.60	**3.7**	1	02/22/07	02/22/07	
Barium	EPA 6020	7B22114	0.096	0.60	**84**	1	02/22/07	02/22/07	
Beryllium	EPA 6020	7B22114	0.048	0.36	**0.63**	1	02/22/07	02/22/07	
Boron	EPA 6010B	7B22115	1.2	6.0	**4.8**	1	02/22/07	02/23/07	J
Cadmium	EPA 6020	7B22114	0.030	0.60	**0.31**	1	02/22/07	02/22/07	J
Chromium	EPA 6020	7B22114	0.42	1.2	**23**	1	02/22/07	02/22/07	
Cobalt	EPA 6020	7B22114	0.096	0.60	**10**	1	02/22/07	02/22/07	
Copper	EPA 6020	7B22114	0.24	1.2	**16**	1	02/22/07	02/22/07	
Lead	EPA 6020	7B22114	0.060	0.60	**9.3**	1	02/22/07	02/22/07	
Lithium	EPA 6010B	7B22115	4.6	7.6	**22**	1	02/22/07	02/23/07	
Molybdenum	EPA 6020	7B22114	0.12	1.2	**0.44**	1	02/22/07	02/22/07	J
Nickel	EPA 6020	7B22114	0.54	1.2	**16**	1	02/22/07	02/22/07	
Potassium	EPA 6010B	7B22115	23	60	**5800**	1	02/22/07	02/23/07	
Selenium	EPA 6020	7B22114	0.24	1.2	**0.34**	1	02/22/07	02/22/07	J
Silver	EPA 6020	7B22114	0.060	0.60	**0.076**	1	02/22/07	02/22/07	J
Sodium	EPA 6010B	7B22115	29	60	**78**	1	02/22/07	02/23/07	
Thallium	EPA 6020	7B22114	0.12	0.60	**0.29**	1	02/22/07	02/22/07	J
Vanadium	EPA 6020	7B22114	0.48	1.2	**36**	1	02/22/07	02/22/07	
Zinc	EPA 6020	7B22114	1.6	12	**58**	1	02/22/07	02/22/07	
Zirconium	EPA 6010B	7B22115	1.8	30	**3.1**	1	02/22/07	02/23/07	J

LEVEL V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7022010
Project ID: IQB1815

Date Received: 02/20/07 08:45
Date Reported: 03/06/07 15:02

FSBS0011D01

IQB1815-01 7022010-01 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**85.6**	% by Weight	0.100	1	Gravimetric	W7B1018	02/26/07	02/26/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.027**	0.00076	mg/kg dry	0.012	1	EPA 7471A	W7B0833	02/21/07	02/22/07 jl	

* Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-02 (FSBS0011S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B22115	6.1	12	**18000**	1	02/22/07	02/23/07	
Antimony	EPA 6020	7B22114	0.036	1.2	**0.13**	1	02/22/07	02/22/07	J
Arsenic	EPA 6020	7B22114	0.30	0.61	**3.5**	1	02/22/07	02/22/07	
Barium	EPA 6020	7B22114	0.097	0.61	**74**	1	02/22/07	02/22/07	
Beryllium	EPA 6020	7B22114	0.048	0.36	**0.58**	1	02/22/07	02/22/07	
Boron U	EPA 6010B	7B22115	1.2	6.1	ND	1	02/22/07	02/23/07	
Cadmium	EPA 6020	7B22114	0.030	0.61	**0.30**	1	02/22/07	02/22/07	J
Chromium	EPA 6020	7B22114	0.42	1.2	**21**	1	02/22/07	02/22/07	
Cobalt	EPA 6020	7B22114	0.097	0.61	**7.5**	1	02/22/07	02/22/07	
Copper	EPA 6020	7B22114	0.24	1.2	**14**	1	02/22/07	02/22/07	
Lead	EPA 6020	7B22114	0.061	0.61	**10**	1	02/22/07	02/22/07	
Lithium	EPA 6010B	7B22115	4.6	7.6	**20**	1	02/22/07	02/23/07	
Molybdenum	EPA 6020	7B22114	0.12	1.2	**0.42**	1	02/22/07	02/22/07	J
Nickel	EPA 6020	7B22114	0.54	1.2	**14**	1	02/22/07	02/22/07	
Potassium	EPA 6010B	7B22115	23	61	**5300**	1	02/22/07	02/23/07	
Selenium	EPA 6020	7B22114	0.24	1.2	**0.31**	1	02/22/07	02/22/07	J
Silver	EPA 6020	7B22114	0.061	0.61	**0.15**	1	02/22/07	02/22/07	J
Sodium	EPA 6010B	7B22115	29	61	**87**	1	02/22/07	02/23/07	
Thallium	EPA 6020	7B22114	0.12	0.61	**0.26**	1	02/22/07	02/22/07	J
Vanadium	EPA 6020	7B22114	0.48	1.2	**33**	1	02/22/07	02/22/07	
Zinc	EPA 6020	7B22114	1.6	12	**53**	1	02/22/07	02/22/07	
Zirconium	EPA 6010B	7B22115	1.8	30	**2.6**	1	02/22/07	02/23/07	J

LEVEL V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7022010
Project ID: IQB1815

Date Received: 02/20/07 08:45
Date Reported: 03/06/07 15:02

FSB5001150 1

IQB1815-02 7022010-02 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**82.8**	% by Weight	0.100	1	Gravimetric	W7B1018	02/26/07	02/26/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.079**	0.00079	mg/kg dry	0.012	1	EPA 7471A	W7B0833	02/21/07	02/22/07 jl	

* Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-03 (FSBS0012S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B22115	5.6	11	**10000**	1	02/22/07	02/23/07	
Antimony	EPA 6020	7B22114	0.034	1.1	**0.046**	1	02/22/07	02/22/07	J
Arsenic	EPA 6020	7B22114	0.28	0.56	**1.7**	1	02/22/07	02/22/07	
Barium	EPA 6020	7B22114	0.090	0.56	**58**	1	02/22/07	02/22/07	
Beryllium	EPA 6020	7B22114	0.045	0.34	**0.34**	1	02/22/07	02/22/07	
Boron U	EPA 6010B	7B22115	1.1	5.6	ND	1	02/22/07	02/23/07	
Cadmium	EPA 6020	7B22114	0.028	0.56	**0.13**	1	02/22/07	02/22/07	J
Chromium	EPA 6020	7B22114	0.40	1.1	**10**	1	02/22/07	02/22/07	
Cobalt	EPA 6020	7B22114	0.090	0.56	**4.3**	1	02/22/07	02/22/07	
Copper	EPA 6020	7B22114	0.23	1.1	**6.6**	1	02/22/07	02/22/07	
Lead	EPA 6020	7B22114	0.056	0.56	**5.0**	1	02/22/07	02/22/07	
Lithium	EPA 6010B	7B22115	4.3	7.1	**22**	1	02/22/07	02/23/07	
Molybdenum	EPA 6020	7B22114	0.11	1.1	**0.31**	1	02/22/07	02/22/07	J
Nickel	EPA 6020	7B22114	0.51	1.1	**7.1**	1	02/22/07	02/22/07	
Potassium	EPA 6010B	7B22115	21	56	**3400**	1	02/22/07	02/23/07	
Selenium U	EPA 6020	7B22114	0.23	1.1	ND	1	02/22/07	02/22/07	
Silver	EPA 6020	7B22114	0.056	0.56	**0.14**	1	02/22/07	02/22/07	J
Sodium	EPA 6010B	7B22115	27	56	**61**	1	02/22/07	02/23/07	
Thallium	EPA 6020	7B22114	0.11	0.56	**0.23**	1	02/22/07	02/22/07	J
Vanadium	EPA 6020	7B22114	0.45	1.1	**22**	1	02/22/07	02/22/07	
Zinc	EPA 6020	7B22114	1.5	11	**44**	1	02/22/07	02/22/07	
Zirconium	EPA 6010B	7B22115	1.7	28	**1.8**	1	02/22/07	02/23/07	J

LEVEL V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7022010
Project ID: IQB1815

Date Received: 02/20/07 08:45
Date Reported: 03/06/07 15:02

FSBS0012S01

IQB1815-03 7022010-03 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**90.6**	% by Weight	0.100	1	Gravimetric	W7B1018	02/26/07	02/26/07 dj	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**2.2**	0.029	mg/kg dry	0.44	40	EPA 7471A	W7B0833	02/21/07	02/22/07 jl	

* Analysis not validated

LEVEL V

Calscience Environmental Laboratories, Inc.

Analytical Report

TestAmerica
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5845

Date Received: 02/19/07
Work Order No: 07-02-1177
Preparation: EPA 3545
Method: EPA 8270C SIM
Units: mg/kg

Project: IQB1815

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
IQB1815-01	07-02-1177-1	02/19/07	Solid	GC/MS N	02/19/07	02/23/07	070219L05

FSBS0011D01

Comment(s): -Results are reported on a dry weight basis.
-Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual
1-Methylnaphthalene	ND	0.024	0.0021	1.18	
2-Methylnaphthalene	ND	0.024	0.0021	1.18	
Acenaphthene	ND	0.024	0.0022	1.18	
Acenaphthylene	ND	0.024	0.0019	1.18	
Anthracene	ND	0.024	0.0021	1.18	
Benzo (a) Anthracene	ND	0.024	0.0025	1.18	
Benzo (a) Pyrene	0.0063	0.024	0.0021	1.18	J
Benzo (b) Fluoranthene	ND	0.024	0.0021	1.18	
Benzo (g,h,i) Perylene	ND	0.024	0.0022	1.18	
Benzo (k) Fluoranthene	ND	0.024	0.0030	1.18	
Bis(2-Ethylhexyl) Phthalate	0.023	0.024	0.0037	1.18	J
Chrysene	0.0064	0.024	0.0024	1.18	J
Di-n-Butyl Phthalate	0.22	0.024	0.0025	1.18	
Dibenz (a,h) Anthracene	ND	0.024	0.0023	1.18	
Diethyl Phthalate	0.012	0.024	0.0024	1.18	J
Fluoranthene	ND	0.024	0.0022	1.18	
Fluorene	ND	0.024	0.0021	1.18	
Indeno (1,2,3-c,d) Pyrene	ND	0.024	0.0021	1.18	
N-Nitrosodimethylamine	ND	0.024	0.0023	1.18	
Naphthalene	ND	0.024	0.0022	1.18	
Phenanthrene	ND	0.024	0.0022	1.18	
Pyrene	ND	0.024	0.0030	1.18	

Surrogates:	REC (%)	Control Limits	Qual
2,4,6-Tribromophenol	57	32-143	
2-Fluorophenol	64	15-138	
p-Terphenyl-d14	100	34-148	
2-Fluorobiphenyl	81	14-146	
Nitrobenzene-d5	90	18-162	
Phenol-d6	62	17-141	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
IQB1815-02	07-02-1177-2	02/19/07	Solid	GC/MS N	02/19/07	02/23/07	070219L05

FSBS0011S01

Comment(s): -Results are reported on a dry weight basis.
-Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual
1-Methylnaphthalene	ND	0.024	0.0021	1.19	
2-Methylnaphthalene	ND	0.024	0.0021	1.19	
Acenaphthene	ND	0.024	0.0022	1.19	
Acenaphthylene	ND	0.024	0.0020	1.19	
Anthracene	ND	0.024	0.0021	1.19	
Benzo (a) Anthracene	ND	0.024	0.0026	1.19	
Benzo (a) Pyrene	ND	0.024	0.0021	1.19	
Benzo (b) Fluoranthene	ND	0.024	0.0021	1.19	
Benzo (g,h,i) Perylene	ND	0.024	0.0022	1.19	
Benzo (k) Fluoranthene	ND	0.024	0.0030	1.19	
Bis(2-Ethylhexyl) Phthalate	0.015	0.024	0.0037	1.19	J
Chrysene	ND	0.024	0.0024	1.19	
Di-n-Butyl Phthalate	0.079	0.024	0.0025	1.19	
Dibenz (a,h) Anthracene	ND	0.024	0.0023	1.19	
Diethyl Phthalate	0.0089	0.024	0.0024	1.19	J
Fluoranthene	ND	0.024	0.0023	1.19	
Fluorene	ND	0.024	0.0021	1.19	
Indeno (1,2,3-c,d) Pyrene	ND	0.024	0.0021	1.19	
N-Nitrosodimethylamine	ND	0.024	0.0023	1.19	
Naphthalene	ND	0.024	0.0022	1.19	
Phenanthrene	ND	0.024	0.0023	1.19	
Pyrene	ND	0.024	0.0030	1.19	

Surrogates:	REC (%)	Control Limits	Qual
2,4,6-Tribromophenol	63	32-143	
2-Fluorophenol	92	15-138	
p-Terphenyl-d14	116	34-148	
2-Fluorobiphenyl	100	14-146	
Nitrobenzene-d5	120	18-162	
Phenol-d6	84	17-141	

Level II

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

TestAmerica
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5845

Date Received: 02/19/07
Work Order No: 07-02-1177
Preparation: EPA 3545
Method: EPA 8270C SIM
Units: mg/kg

Project: IQB1815

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
IQB1815-03	07-02-1177-3	02/19/07	Solid	GC/MS N	02/19/07	02/22/07	070219L05

FSBS0012501

Comment(s): -Results are reported on a dry weight basis.

-Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
1-Methylnaphthalene	ND	0.022	0.0020	1.1		Chrysene	ND	0.022	0.0023	1.1	
2-Methylnaphthalene	ND	0.022	0.0019	1.1		Di-n-Butyl Phthalate	0.038	0.022	0.0023	1.1	
Acenaphthene	ND	0.022	0.0020	1.1		Dibenz (a,h) Anthracene	ND	0.022	0.0021	1.1	
Acenaphthylene	ND	0.022	0.0018	1.1		Diethyl Phthalate	ND	0.022	0.0022	1.1	
Anthracene	ND	0.022	0.0020	1.1		Fluoranthene	ND	0.022	0.0021	1.1	
Benzo (a) Anthracene	ND	0.022	0.0024	1.1		Fluorene	ND	0.022	0.0019	1.1	
Benzo (a) Pyrene	ND	0.022	0.0019	1.1		Indeno (1,2,3-c,d) Pyrene	ND	0.022	0.0020	1.1	
Benzo (b) Fluoranthene	ND	0.022	0.0020	1.1		N-Nitrosodimethylamine	ND	0.022	0.0021	1.1	
Benzo (g,h,i) Perylene	ND	0.022	0.0020	1.1		Naphthalene	ND	0.022	0.0020	1.1	
Benzo (k) Fluoranthene	ND	0.022	0.0028	1.1		Phenanthrene	ND	0.022	0.0021	1.1	
Bis(2-Ethylhexyl) Phthalate	0.039	0.022	0.0034	1.1		Pyrene	ND	0.022	0.0028	1.1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2,4,6-Tribromophenol	67	32-143		2-Fluorobiphenyl	88	14-146	
2-Fluorophenol	81	15-138		Nitrobenzene-d5	102	18-162	
p-Terphenyl-d14	100	34-148		Phenol-d6	77	17-141	

Method Blank *	099-12-413-26	N/A	Solid	GC/MS N	02/19/07	02/22/07	070219L05

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
1-Methylnaphthalene	ND	0.020	0.0018	1		Chrysene	ND	0.020	0.0020	1	
2-Methylnaphthalene	ND	0.020	0.0018	1		Di-n-Butyl Phthalate	ND	0.020	0.0021	1	
Acenaphthene	ND	0.020	0.0018	1		Dibenz (a,h) Anthracene	ND	0.020	0.0020	1	
Acenaphthylene	ND	0.020	0.0016	1		Diethyl Phthalate	ND	0.020	0.0020	1	
Anthracene	ND	0.020	0.0018	1		Fluoranthene	ND	0.020	0.0019	1	
Benzo (a) Anthracene	ND	0.020	0.0022	1		Fluorene	ND	0.020	0.0018	1	
Benzo (a) Pyrene	ND	0.020	0.0018	1		Indeno (1,2,3-c,d) Pyrene	ND	0.020	0.0018	1	
Benzo (b) Fluoranthene	ND	0.020	0.0018	1		N-Nitrosodimethylamine	ND	0.020	0.0020	1	
Benzo (g,h,i) Perylene	ND	0.020	0.0018	1		Naphthalene	ND	0.020	0.0018	1	
Benzo (k) Fluoranthene	ND	0.020	0.0025	1		Phenanthrene	ND	0.020	0.0019	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.020	0.0031	1		Pyrene	ND	0.020	0.0025	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2,4,6-Tribromophenol	82	32-143		2-Fluorobiphenyl	95	14-146	
2-Fluorophenol	99	15-138		Nitrobenzene-d5	118	18-162	
p-Terphenyl-d14	106	34-148		Phenol-d6	99	17-141	

*Analysis not validated.

Level II

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

POLYCHLORINATED BIPHENYLS (EPA 3545/8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-01RE2 (FSBS0011D01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B26083	18	60	ND	1	02/23/07	02/27/07	
Aroclor 1221	EPA 8082	7B26083	18	60	ND	1	02/23/07	02/27/07	
Aroclor 1232	EPA 8082	7B26083	12	60	ND	1	02/23/07	02/27/07	
Aroclor 1242	EPA 8082	7B26083	12	60	ND	1	02/23/07	02/27/07	
Aroclor 1248	EPA 8082	7B26083	12	60	ND	1	02/23/07	02/27/07	
Aroclor 1254 J	EPA 8082	7B26083	12	60	**14**	1	02/23/07	02/27/07	J
Aroclor 1260 U	EPA 8082	7B26083	12	60	ND	1	02/23/07	02/27/07	
Surrogate: Decachlorobiphenyl (45-120%)					*95 %*				
Sample ID: IQB1815-02RE1 (FSBS0011S01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B26083	18	61	ND	1	02/26/07	02/27/07	
Aroclor 1221	EPA 8082	7B26083	18	61	ND	1	02/26/07	02/27/07	
Aroclor 1232	EPA 8082	7B26083	12	61	ND	1	02/26/07	02/27/07	
Aroclor 1242	EPA 8082	7B26083	12	61	ND	1	02/26/07	02/27/07	
Aroclor 1248	EPA 8082	7B26083	12	61	ND	1	02/26/07	02/27/07	
Aroclor 1254 J	EPA 8082	7B26083	12	61	**19**	1	02/26/07	02/27/07	J
Aroclor 1260 U	EPA 8082	7B26083	12	61	ND	1	02/26/07	02/27/07	
Surrogate: Decachlorobiphenyl (45-120%)					*86 %*				
Sample ID: IQB1815-03 (FSBS0012S01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B23106	17	56	ND	1	02/23/07	02/24/07	
Aroclor 1221	EPA 8082	7B23106	17	56	ND	1	02/23/07	02/24/07	
Aroclor 1232	EPA 8082	7B23106	11	56	ND	1	02/23/07	02/24/07	
Aroclor 1242	EPA 8082	7B23106	11	56	ND	1	02/23/07	02/24/07	
Aroclor 1248	EPA 8082	7B23106	11	56	ND	1	02/23/07	02/24/07	
Aroclor 1254 J	EPA 8082	7B23106	11	56	**13**	1	02/23/07	02/24/07	J
Aroclor 1260 U	EPA 8082	7B23106	11	56	ND	1	02/23/07	02/24/07	
Surrogate: Decachlorobiphenyl (45-120%)					*106 %*				

Level IV

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-01 (FSBS0011D01 - Soil)									
Reporting Units: mg/kg dry									
EFH (C8 - C11)	EPA 8015B	7B20072	4.2	6.0	ND	1	02/20/07	02/21/07	
EFH (C12 - C14)	EPA 8015B	7B20072	4.2	6.0	ND	1	02/20/07	02/21/07	
EFH (C15 - C20)	EPA 8015B	7B20072	4.2	6.0	ND	1	02/20/07	02/21/07	
EFH (C21 - C30)	EPA 8015B	7B20072	4.2	6.0	ND	1	02/20/07	02/21/07	
Surrogate: n-Octacosane (40-125%)					*79 %*				
Sample ID: IQB1815-02 (FSBS0011S01 - Soil)									
Reporting Units: mg/kg dry									
EFH (C8 - C11)	EPA 8015B	7B20072	4.2	6.1	ND	1	02/20/07	02/21/07	
EFH (C12 - C14)	EPA 8015B	7B20072	4.2	6.1	ND	1	02/20/07	02/21/07	
EFH (C15 - C20)	EPA 8015B	7B20072	4.2	6.1	ND	1	02/20/07	02/21/07	
EFH (C21 - C30)	EPA 8015B	7B20072	4.2	6.1	ND	1	02/20/07	02/21/07	
Surrogate: n-Octacosane (40-125%)					*72 %*				
Sample ID: IQB1815-03 (FSBS0012S01 - Soil)									
Reporting Units: mg/kg dry									
EFH (C8 - C11)	EPA 8015B	7B20072	4.0	5.6	ND	1	02/20/07	02/20/07	
EFH (C12 - C14)	EPA 8015B	7B20072	4.0	5.6	ND	1	02/20/07	02/20/07	
EFH (C15 - C20)	EPA 8015B	7B20072	4.0	5.6	ND	1	02/20/07	02/20/07	
EFH (C21 - C30)	EPA 8015B	7B20072	4.0	5.6	ND	1	02/20/07	02/20/07	
Surrogate: n-Octacosane (40-125%)					*62 %*				

Level V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Sample ID: IQB1815-01 (FSBS0011D01 - Soil)

Reporting Units: ug/kg dry

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Acetone	EPA 8260B	7B19031	8.9	11	ND	0.919	02/19/07	02/19/07	
Benzene	EPA 8260B	7B19031	0.55	2.2	ND	0.919	02/19/07	02/19/07	
Bromobenzene	EPA 8260B	7B19031	0.93	5.5	ND	0.919	02/19/07	02/19/07	
Bromochloromethane	EPA 8260B	7B19031	1.0	5.5	ND	0.919	02/19/07	02/19/07	
Bromodichloromethane	EPA 8260B	7B19031	0.47	2.2	ND	0.919	02/19/07	02/19/07	
Bromoform	EPA 8260B	7B19031	0.89	5.5	ND	0.919	02/19/07	02/19/07	
Bromomethane	EPA 8260B	7B19031	1.0	5.5	ND	0.919	02/19/07	02/19/07	
2-Butanone (MEK)	EPA 8260B	7B19031	6.6	11	ND	0.919	02/19/07	02/19/07	
n-Butylbenzene	EPA 8260B	7B19031	0.80	5.5	ND	0.919	02/19/07	02/19/07	
sec-Butylbenzene	EPA 8260B	7B19031	0.74	5.5	ND	0.919	02/19/07	02/19/07	
tert-Butylbenzene	EPA 8260B	7B19031	0.69	5.5	ND	0.919	02/19/07	02/19/07	
Carbon tetrachloride	EPA 8260B	7B19031	0.55	5.5	ND	0.919	02/19/07	02/19/07	
Chlorobenzene	EPA 8260B	7B19031	0.58	2.2	ND	0.919	02/19/07	02/19/07	
Chloroethane	EPA 8260B	7B19031	1.7	5.5	ND	0.919	02/19/07	02/19/07	
2-Chloroethyl vinyl ether	EPA 8260B	7B19031	4.2	5.5	ND	0.919	02/19/07	02/19/07	
Chloroform	EPA 8260B	7B19031	0.55	2.2	ND	0.919	02/19/07	02/19/07	
Chloromethane	EPA 8260B	7B19031	1.1	5.5	ND	0.919	02/19/07	02/19/07	
2-Chlorotoluene	EPA 8260B	7B19031	0.96	5.5	ND	0.919	02/19/07	02/19/07	
4-Chlorotoluene	EPA 8260B	7B19031	0.82	5.5	ND	0.919	02/19/07	02/19/07	
Dibromochloromethane	EPA 8260B	7B19031	0.62	2.2	ND	0.919	02/19/07	02/19/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7B19031	1.7	5.5	ND	0.919	02/19/07	02/19/07	
1,2-Dibromoethane (EDB)	EPA 8260B	7B19031	0.89	2.2	ND	0.919	02/19/07	02/19/07	
Dibromomethane	EPA 8260B	7B19031	1.0	2.2	ND	0.919	02/19/07	02/19/07	
1,2-Dichlorobenzene	EPA 8260B	7B19031	1.1	2.2	ND	0.919	02/19/07	02/19/07	
1,3-Dichlorobenzene	EPA 8260B	7B19031	0.93	2.2	ND	0.919	02/19/07	02/19/07	
1,4-Dichlorobenzene	EPA 8260B	7B19031	1.0	2.2	ND	0.919	02/19/07	02/19/07	
Dichlorodifluoromethane	EPA 8260B	7B19031	1.7	5.5	ND	0.919	02/19/07	02/19/07	
1,1-Dichloroethane	EPA 8260B	7B19031	0.55	2.2	ND	0.919	02/19/07	02/19/07	
1,2-Dichloroethane	EPA 8260B	7B19031	0.89	2.2	ND	0.919	02/19/07	02/19/07	
1,1-Dichloroethene	EPA 8260B	7B19031	0.66	5.5	ND	0.919	02/19/07	02/19/07	
cis-1,2-Dichloroethene	EPA 8260B	7B19031	0.92	2.2	ND	0.919	02/19/07	02/19/07	
trans-1,2-Dichloroethene	EPA 8260B	7B19031	0.78	2.2	ND	0.919	02/19/07	02/19/07	
1,2-Dichloropropane	EPA 8260B	7B19031	0.39	2.2	ND	0.919	02/19/07	02/19/07	
1,3-Dichloropropane	EPA 8260B	7B19031	0.70	2.2	ND	0.919	02/19/07	02/19/07	
2,2-Dichloropropane	EPA 8260B	7B19031	0.50	2.2	ND	0.919	02/19/07	02/19/07	
1,1-Dichloropropene	EPA 8260B	7B19031	0.44	2.2	ND	0.919	02/19/07	02/19/07	
cis-1,3-Dichloropropene	EPA 8260B	7B19031	0.49	2.2	ND	0.919	02/19/07	02/19/07	
trans-1,3-Dichloropropene	EPA 8260B	7B19031	0.68	2.2	ND	0.919	02/19/07	02/19/07	
Ethylbenzene	EPA 8260B	7B19031	0.55	2.2	ND	0.919	02/19/07	02/19/07	
Hexachlorobutadiene	EPA 8260B	7B19031	0.81	5.5	ND	0.919	02/19/07	02/19/07	
2-Hexanone	EPA 8260B	7B19031	10	11	ND	0.919	02/19/07	02/19/07	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Level II

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-01 (FSBS0011D01 - Soil) - cont.									
Reporting Units: ug/kg dry									
Isopropylbenzene	EPA 8260B	7B19031	0.60	2.2	ND	0.919	02/19/07	02/19/07	
p-Isopropyltoluene	EPA 8260B	7B19031	0.80	2.2	ND	0.919	02/19/07	02/19/07	
Methylene chloride	EPA 8260B	7B19031	7.2	22	ND	0.919	02/19/07	02/19/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7B19031	3.5	5.5	ND	0.919	02/19/07	02/19/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7B19031	1.1	5.5	ND	0.919	02/19/07	02/19/07	
Naphthalene	EPA 8260B	7B19031	1.2	5.5	ND	0.919	02/19/07	02/19/07	
n-Propylbenzene	EPA 8260B	7B19031	0.68	2.2	ND	0.919	02/19/07	02/19/07	
Styrene	EPA 8260B	7B19031	0.64	2.2	ND	0.919	02/19/07	02/19/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7B19031	0.63	5.5	ND	0.919	02/19/07	02/19/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7B19031	0.95	2.2	ND	0.919	02/19/07	02/19/07	
Tetrachloroethene	EPA 8260B	7B19031	0.54	2.2	ND	0.919	02/19/07	02/19/07	
Toluene	EPA 8260B	7B19031	0.55	2.2	ND	0.919	02/19/07	02/19/07	
1,2,3-Trichlorobenzene	EPA 8260B	7B19031	1.1	5.5	ND	0.919	02/19/07	02/19/07	
1,2,4-Trichlorobenzene	EPA 8260B	7B19031	1.1	5.5	ND	0.919	02/19/07	02/19/07	
1,1,1-Trichloroethane	EPA 8260B	7B19031	0.78	2.2	ND	0.919	02/19/07	02/19/07	
1,1,2-Trichloroethane	EPA 8260B	7B19031	0.96	2.2	ND	0.919	02/19/07	02/19/07	
Trichloroethene	EPA 8260B	7B19031	0.55	2.2	ND	0.919	02/19/07	02/19/07	
Trichlorofluoromethane	EPA 8260B	7B19031	0.60	5.5	ND	0.919	02/19/07	02/19/07	
1,2,3-Trichloropropane	EPA 8260B	7B19031	1.1	11	ND	0.919	02/19/07	02/19/07	
1,2,4-Trimethylbenzene	EPA 8260B	7B19031	0.86	2.2	ND	0.919	02/19/07	02/19/07	
1,3,5-Trimethylbenzene	EPA 8260B	7B19031	0.70	2.2	ND	0.919	02/19/07	02/19/07	
Vinyl chloride	EPA 8260B	7B19031	1.0	2.2	ND	0.919	02/19/07	02/19/07	
o-Xylene	EPA 8260B	7B19031	0.55	2.2	ND	0.919	02/19/07	02/19/07	
m,p-Xylenes	EPA 8260B	7B19031	0.89	2.2	ND	0.919	02/19/07	02/19/07	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	7B19031	4.4	5.5	ND	0.919	02/19/07	02/19/07	
Surrogate: Dibromofluoromethane (80-125%)					*91 %*				
Surrogate: Toluene-d8 (80-120%)					*97 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*84 %*				

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Level II

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-02 (FSBS0011S01 - Soil)									
Reporting Units: ug/kg dry									
Acetone	EPA 8260B	7B19031	9.6	12	ND	0.99	02/19/07	02/19/07	
Benzene	EPA 8260B	7B19031	0.60	2.4	ND	0.99	02/19/07	02/19/07	
Bromobenzene	EPA 8260B	7B19031	1.0	6.0	ND	0.99	02/19/07	02/19/07	
Bromochloromethane	EPA 8260B	7B19031	1.1	6.0	ND	0.99	02/19/07	02/19/07	
Bromodichloromethane	EPA 8260B	7B19031	0.50	2.4	ND	0.99	02/19/07	02/19/07	
Bromoform	EPA 8260B	7B19031	0.96	6.0	ND	0.99	02/19/07	02/19/07	
Bromomethane	EPA 8260B	7B19031	1.1	6.0	ND	0.99	02/19/07	02/19/07	
2-Butanone (MEK)	EPA 8260B	7B19031	7.2	12	ND	0.99	02/19/07	02/19/07	
n-Butylbenzene	EPA 8260B	7B19031	0.86	6.0	ND	0.99	02/19/07	02/19/07	
sec-Butylbenzene	EPA 8260B	7B19031	0.80	6.0	ND	0.99	02/19/07	02/19/07	
tert-Butylbenzene	EPA 8260B	7B19031	0.74	6.0	ND	0.99	02/19/07	02/19/07	
Carbon tetrachloride	EPA 8260B	7B19031	0.60	6.0	ND	0.99	02/19/07	02/19/07	
Chlorobenzene	EPA 8260B	7B19031	0.62	2.4	ND	0.99	02/19/07	02/19/07	
Chloroethane	EPA 8260B	7B19031	1.8	6.0	ND	0.99	02/19/07	02/19/07	
2-Chloroethyl vinyl ether	EPA 8260B	7B19031	4.6	6.0	ND	0.99	02/19/07	02/19/07	
Chloroform	EPA 8260B	7B19031	0.60	2.4	ND	0.99	02/19/07	02/19/07	
Chloromethane	EPA 8260B	7B19031	1.2	6.0	ND	0.99	02/19/07	02/19/07	
2-Chlorotoluene	EPA 8260B	7B19031	1.0	6.0	ND	0.99	02/19/07	02/19/07	
4-Chlorotoluene	EPA 8260B	7B19031	0.89	6.0	ND	0.99	02/19/07	02/19/07	
Dibromochloromethane	EPA 8260B	7B19031	0.67	2.4	ND	0.99	02/19/07	02/19/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7B19031	1.8	6.0	ND	0.99	02/19/07	02/19/07	
1,2-Dibromoethane (EDB)	EPA 8260B	7B19031	0.96	2.4	ND	0.99	02/19/07	02/19/07	
Dibromomethane	EPA 8260B	7B19031	1.1	2.4	ND	0.99	02/19/07	02/19/07	
1,2-Dichlorobenzene	EPA 8260B	7B19031	1.1	2.4	ND	0.99	02/19/07	02/19/07	
1,3-Dichlorobenzene	EPA 8260B	7B19031	1.0	2.4	ND	0.99	02/19/07	02/19/07	
1,4-Dichlorobenzene	EPA 8260B	7B19031	1.1	2.4	ND	0.99	02/19/07	02/19/07	
Dichlorodifluoromethane	EPA 8260B	7B19031	1.8	6.0	ND	0.99	02/19/07	02/19/07	
1,1-Dichloroethane	EPA 8260B	7B19031	0.60	2.4	ND	0.99	02/19/07	02/19/07	
1,2-Dichloroethane	EPA 8260B	7B19031	0.96	2.4	ND	0.99	02/19/07	02/19/07	
1,1-Dichloroethene	EPA 8260B	7B19031	0.72	6.0	ND	0.99	02/19/07	02/19/07	
cis-1,2-Dichloroethene	EPA 8260B	7B19031	0.99	2.4	ND	0.99	02/19/07	02/19/07	
trans-1,2-Dichloroethene	EPA 8260B	7B19031	0.84	2.4	ND	0.99	02/19/07	02/19/07	
1,2-Dichloropropane	EPA 8260B	7B19031	0.42	2.4	ND	0.99	02/19/07	02/19/07	
1,3-Dichloropropane	EPA 8260B	7B19031	0.76	2.4	ND	0.99	02/19/07	02/19/07	
2,2-Dichloropropane	EPA 8260B	7B19031	0.54	2.4	ND	0.99	02/19/07	02/19/07	
1,1-Dichloropropene	EPA 8260B	7B19031	0.48	2.4	ND	0.99	02/19/07	02/19/07	
cis-1,3-Dichloropropene	EPA 8260B	7B19031	0.53	2.4	ND	0.99	02/19/07	02/19/07	
trans-1,3-Dichloropropene	EPA 8260B	7B19031	0.73	2.4	ND	0.99	02/19/07	02/19/07	
Ethylbenzene	EPA 8260B	7B19031	0.60	2.4	ND	0.99	02/19/07	02/19/07	
Hexachlorobutadiene	EPA 8260B	7B19031	0.88	6.0	ND	0.99	02/19/07	02/19/07	
2-Hexanone	EPA 8260B	7B19031	11	12	ND	0.99	02/19/07	02/19/07	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Level V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE 1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-02 (FSBS0011S01 - Soil) - cont.									
Reporting Units: ug/kg dry									
Isopropylbenzene u	EPA 8260B	7B19031	0.65	2.4	ND	0.99	02/19/07	02/19/07	
p-Isopropyltoluene	EPA 8260B	7B19031	0.86	2.4	ND	0.99	02/19/07	02/19/07	
Methylene chloride	EPA 8260B	7B19031	7.8	24	ND	0.99	02/19/07	02/19/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7B19031	3.8	6.0	ND	0.99	02/19/07	02/19/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7B19031	1.2	6.0	ND	0.99	02/19/07	02/19/07	
Naphthalene	EPA 8260B	7B19031	1.3	6.0	ND	0.99	02/19/07	02/19/07	
n-Propylbenzene	EPA 8260B	7B19031	0.73	2.4	ND	0.99	02/19/07	02/19/07	
Styrene	EPA 8260B	7B19031	0.70	2.4	ND	0.99	02/19/07	02/19/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7B19031	0.68	6.0	ND	0.99	02/19/07	02/19/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7B19031	1.0	2.4	ND	0.99	02/19/07	02/19/07	
Tetrachloroethene	EPA 8260B	7B19031	0.59	2.4	ND	0.99	02/19/07	02/19/07	
Toluene	EPA 8260B	7B19031	0.60	2.4	ND	0.99	02/19/07	02/19/07	
1,2,3-Trichlorobenzene	EPA 8260B	7B19031	1.2	6.0	ND	0.99	02/19/07	02/19/07	
1,2,4-Trichlorobenzene	EPA 8260B	7B19031	1.2	6.0	ND	0.99	02/19/07	02/19/07	
1,1,1-Trichloroethane	EPA 8260B	7B19031	0.84	2.4	ND	0.99	02/19/07	02/19/07	
1,1,2-Trichloroethane	EPA 8260B	7B19031	1.0	2.4	ND	0.99	02/19/07	02/19/07	
Trichloroethene	EPA 8260B	7B19031	0.60	2.4	ND	0.99	02/19/07	02/19/07	
Trichlorofluoromethane	EPA 8260B	7B19031	0.65	6.0	ND	0.99	02/19/07	02/19/07	
1,2,3-Trichloropropane	EPA 8260B	7B19031	1.2	12	ND	0.99	02/19/07	02/19/07	
1,2,4-Trimethylbenzene	EPA 8260B	7B19031	0.93	2.4	ND	0.99	02/19/07	02/19/07	
1,3,5-Trimethylbenzene	EPA 8260B	7B19031	0.76	2.4	ND	0.99	02/19/07	02/19/07	
Vinyl chloride	EPA 8260B	7B19031	1.1	2.4	ND	0.99	02/19/07	02/19/07	
o-Xylene	EPA 8260B	7B19031	0.60	2.4	ND	0.99	02/19/07	02/19/07	
m,p-Xylenes	EPA 8260B	7B19031	0.96	2.4	ND	0.99	02/19/07	02/19/07	
Trichlorotrifluoroethane (Freon 113) u	EPA 8260B	7B19031	4.8	6.0	ND	0.99	02/19/07	02/19/07	
Surrogate: Dibromofluoromethane (80-125%)					*89 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*84 %*				

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Level IV

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-03 (FSBS0012S01 - Soil)									
Reporting Units: ug/kg dry									
Acetone	EPA 8260B	7B19031	7.3	9.1	ND	0.809	02/19/07	02/19/07	
Benzene	EPA 8260B	7B19031	0.46	1.8	ND	0.809	02/19/07	02/19/07	
Bromobenzene	EPA 8260B	7B19031	0.77	4.6	ND	0.809	02/19/07	02/19/07	
Bromochloromethane	EPA 8260B	7B19031	0.82	4.6	ND	0.809	02/19/07	02/19/07	
Bromodichloromethane	EPA 8260B	7B19031	0.38	1.8	ND	0.809	02/19/07	02/19/07	
Bromoform	EPA 8260B	7B19031	0.73	4.6	ND	0.809	02/19/07	02/19/07	
Bromomethane	EPA 8260B	7B19031	0.84	4.6	ND	0.809	02/19/07	02/19/07	
2-Butanone (MEK)	EPA 8260B	7B19031	5.5	9.1	ND	0.809	02/19/07	02/19/07	
n-Butylbenzene	EPA 8260B	7B19031	0.66	4.6	ND	0.809	02/19/07	02/19/07	
sec-Butylbenzene	EPA 8260B	7B19031	0.61	4.6	ND	0.809	02/19/07	02/19/07	
tert-Butylbenzene	EPA 8260B	7B19031	0.57	4.6	ND	0.809	02/19/07	02/19/07	
Carbon tetrachloride	EPA 8260B	7B19031	0.46	4.6	ND	0.809	02/19/07	02/19/07	
Chlorobenzene	EPA 8260B	7B19031	0.48	1.8	ND	0.809	02/19/07	02/19/07	
Chloroethane	EPA 8260B	7B19031	1.4	4.6	ND	0.809	02/19/07	02/19/07	
2-Chloroethyl vinyl ether	EPA 8260B	7B19031	3.5	4.6	ND	0.809	02/19/07	02/19/07	
Chloroform	EPA 8260B	7B19031	0.46	1.8	ND	0.809	02/19/07	02/19/07	
Chloromethane	EPA 8260B	7B19031	0.91	4.6	ND	0.809	02/19/07	02/19/07	
2-Chlorotoluene	EPA 8260B	7B19031	0.80	4.6	ND	0.809	02/19/07	02/19/07	
4-Chlorotoluene	EPA 8260B	7B19031	0.68	4.6	ND	0.809	02/19/07	02/19/07	
Dibromochloromethane	EPA 8260B	7B19031	0.51	1.8	ND	0.809	02/19/07	02/19/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7B19031	1.4	4.6	ND	0.809	02/19/07	02/19/07	
1,2-Dibromoethane (EDB)	EPA 8260B	7B19031	0.73	1.8	ND	0.809	02/19/07	02/19/07	
Dibromomethane	EPA 8260B	7B19031	0.82	1.8	ND	0.809	02/19/07	02/19/07	
1,2-Dichlorobenzene	EPA 8260B	7B19031	0.87	1.8	ND	0.809	02/19/07	02/19/07	
1,3-Dichlorobenzene	EPA 8260B	7B19031	0.77	1.8	ND	0.809	02/19/07	02/19/07	
1,4-Dichlorobenzene	EPA 8260B	7B19031	0.86	1.8	ND	0.809	02/19/07	02/19/07	
Dichlorodifluoromethane	EPA 8260B	7B19031	1.4	4.6	ND	0.809	02/19/07	02/19/07	
1,1-Dichloroethane	EPA 8260B	7B19031	0.46	1.8	ND	0.809	02/19/07	02/19/07	
1,2-Dichloroethane	EPA 8260B	7B19031	0.73	1.8	ND	0.809	02/19/07	02/19/07	
1,1-Dichloroethene	EPA 8260B	7B19031	0.55	4.6	ND	0.809	02/19/07	02/19/07	
cis-1,2-Dichloroethene	EPA 8260B	7B19031	0.76	1.8	ND	0.809	02/19/07	02/19/07	
trans-1,2-Dichloroethene	EPA 8260B	7B19031	0.64	1.8	ND	0.809	02/19/07	02/19/07	
1,2-Dichloropropane	EPA 8260B	7B19031	0.32	1.8	ND	0.809	02/19/07	02/19/07	
1,3-Dichloropropane	EPA 8260B	7B19031	0.58	1.8	ND	0.809	02/19/07	02/19/07	
2,2-Dichloropropane	EPA 8260B	7B19031	0.41	1.8	ND	0.809	02/19/07	02/19/07	
1,1-Dichloropropene	EPA 8260B	7B19031	0.37	1.8	ND	0.809	02/19/07	02/19/07	
cis-1,3-Dichloropropene	EPA 8260B	7B19031	0.40	1.8	ND	0.809	02/19/07	02/19/07	
trans-1,3-Dichloropropene	EPA 8260B	7B19031	0.56	1.8	ND	0.809	02/19/07	02/19/07	
Ethylbenzene	EPA 8260B	7B19031	0.46	1.8	ND	0.809	02/19/07	02/19/07	
Hexachlorobutadiene	EPA 8260B	7B19031	0.67	4.6	ND	0.809	02/19/07	02/19/07	
2-Hexanone	EPA 8260B	7B19031	8.3	9.1	ND	0.809	02/19/07	02/19/07	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Level IV

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

VOLATILE ORGANICS by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-03 (FSBS0012S01 - Soil) - cont.									
Reporting Units: ug/kg dry									
Isopropylbenzene	EPA 8260B	7B19031	0.49	1.8	ND	0.809	02/19/07	02/19/07	
p-Isopropyltoluene	EPA 8260B	7B19031	0.66	1.8	ND	0.809	02/19/07	02/19/07	
Methylene chloride	EPA 8260B	7B19031	5.9	18	ND	0.809	02/19/07	02/19/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7B19031	2.9	4.6	ND	0.809	02/19/07	02/19/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7B19031	0.91	4.6	ND	0.809	02/19/07	02/19/07	
Naphthalene	EPA 8260B	7B19031	1.0	4.6	ND	0.809	02/19/07	02/19/07	
n-Propylbenzene	EPA 8260B	7B19031	0.56	1.8	ND	0.809	02/19/07	02/19/07	
Styrene	EPA 8260B	7B19031	0.53	1.8	ND	0.809	02/19/07	02/19/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7B19031	0.52	4.6	ND	0.809	02/19/07	02/19/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7B19031	0.79	1.8	ND	0.809	02/19/07	02/19/07	
Tetrachloroethene	EPA 8260B	7B19031	0.45	1.8	ND	0.809	02/19/07	02/19/07	
Toluene	EPA 8260B	7B19031	0.46	1.8	ND	0.809	02/19/07	02/19/07	
1,2,3-Trichlorobenzene	EPA 8260B	7B19031	0.91	4.6	ND	0.809	02/19/07	02/19/07	
1,2,4-Trichlorobenzene	EPA 8260B	7B19031	0.91	4.6	ND	0.809	02/19/07	02/19/07	
1,1,1-Trichloroethane	EPA 8260B	7B19031	0.64	1.8	ND	0.809	02/19/07	02/19/07	
1,1,2-Trichloroethane	EPA 8260B	7B19031	0.80	1.8	ND	0.809	02/19/07	02/19/07	
Trichloroethene	EPA 8260B	7B19031	0.46	1.8	ND	0.809	02/19/07	02/19/07	
Trichlorofluoromethane	EPA 8260B	7B19031	0.49	4.6	ND	0.809	02/19/07	02/19/07	
1,2,3-Trichloropropane	EPA 8260B	7B19031	0.91	9.1	ND	0.809	02/19/07	02/19/07	
1,2,4-Trimethylbenzene	EPA 8260B	7B19031	0.71	1.8	ND	0.809	02/19/07	02/19/07	
1,3,5-Trimethylbenzene	EPA 8260B	7B19031	0.58	1.8	ND	0.809	02/19/07	02/19/07	
Vinyl chloride	EPA 8260B	7B19031	0.83	1.8	ND	0.809	02/19/07	02/19/07	
o-Xylene	EPA 8260B	7B19031	0.46	1.8	ND	0.809	02/19/07	02/19/07	
m,p-Xylenes	EPA 8260B	7B19031	0.73	1.8	ND	0.809	02/19/07	02/19/07	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	7B19031	3.7	4.6	ND	0.809	02/19/07	02/19/07	
Surrogate: Dibromofluoromethane (80-125%)					*93 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*86 %*				

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Level II

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-01 (FSBS0011D01 - Soil)									
Reporting Units: ug/kg dry									
2-Chloro-1,1,1-trifluoroethane UJ/*10	EPA 8260B	7B19031	N/A	11	ND	0.919	02/19/07	02/19/07	
Chlorotrifluoroethene	EPA 8260B	7B19031	N/A	11	ND	0.919	02/19/07	02/19/07	
Sample ID: IQB1815-02 (FSBS0011S01 - Soil)									
Reporting Units: ug/kg dry									
2-Chloro-1,1,1-trifluoroethane UJ/*10	EPA 8260B	7B19031	N/A	12	ND	0.99	02/19/07	02/19/07	
Chlorotrifluoroethene	EPA 8260B	7B19031	N/A	12	ND	0.99	02/19/07	02/19/07	
Sample ID: IQB1815-03 (FSBS0012S01 - Soil)									
Reporting Units: ug/kg dry									
2-Chloro-1,1,1-trifluoroethane UJ/*10	EPA 8260B	7B19031	N/A	9.1	ND	0.809	02/19/07	02/19/07	
Chlorotrifluoroethene	EPA 8260B	7B19031	N/A	9.1	ND	0.809	02/19/07	02/19/07	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

Level II

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1815

Sampled: 02/16/07
Received: 02/16/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1815-01 (FSBS0011D01 - Soil)									
Reporting Units: %									
* **Percent Solids**	EPA 160.3 MOD	7B19107	0.10	0.10	**83**	1	02/19/07	02/20/07	
Sample ID: IQB1815-02 (FSBS0011S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B19107	0.10	0.10	**83**	1	02/19/07	02/20/07	
Sample ID: IQB1815-03 (FSBS0012S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7B19107	0.10	0.10	**88**	1	02/19/07	02/20/07	
Sample ID: IQB1815-01 (FSBS0011D01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B17034	0.00	NA	**7.69**	1	02/17/07	02/17/07	
Sample ID: IQB1815-02 (FSBS0011S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B17034	0.00	NA	**7.56**	1	02/17/07	02/17/07	
Sample ID: IQB1815-03 (FSBS0012S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B17034	0.00	NA	**7.38**	1	02/17/07	02/17/07	
Sample ID: IQB1815-04 (FSBS0013S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B17034	0.00	NA	**7.22**	1	02/17/07	02/17/07	
Sample ID: IQB1815-01 (FSBS0011D01 - Soil)									
Reporting Units: ug/l									
U Perchlorate	EPA 314.0 DI-RFI	7B26114	0.80	4.0	ND	1	02/26/07	02/26/07	
Sample ID: IQB1815-02 (FSBS0011S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B26114	0.80	4.0	ND	1	02/26/07	02/26/07	
Sample ID: IQB1815-03 (FSBS0012S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B26114	0.80	4.0	ND	1	02/26/07	02/26/07	

* Analysis not validated

LEVEL V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQB1861

Prepared by

MEC^{X}, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	IQB1861
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	7
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
FSBS0032S01	IQB1861-20	N/A	Soil	2/15/2007 1:29:00 PM	314.0-DI WET
FSBS0033S01	IQB1861-18	N/A	Soil	2/15/2007 1:20:00 PM	314.0-DI WET
FSBS0036S01	IQB1861-22	N/A	Soil	2/15/2007 1:59:00 PM	314.0-DI WET
FSBS0051S01	IQB1861-12	N/A	Soil	2/15/2007 10:32:00 AM	314.0-DI WET
FSBS0052S01	IQB1861-13	N/A	Soil	2/15/2007 10:35:00 AM	314.0-DI WET
FSBS0054S01	IQB1861-16	N/A	Soil	2/15/2007 10:44:00 AM	314.0-DI WET
FSBS0062S01	IQB1861-11	N/A	Soil	2/15/2007 10:08:00 AM	314.0-DI WET

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present. Not applicable.	
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

A. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: 3/28/07

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days, was met.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the method-established QC limits of 85-115%.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: Recoveries and RPDs were within method-established QC limits of 80-120% and ≤15%, respectively.
- Sample Result Verification: The sample results reported on the result summary form were verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
    - Field Blanks and Equipment Rinsates: Perchlorate was not detected in either the field blank, BLQW0018F01 (IQB1202), or the equipment rinsate, FSQW0002E01 (IQB2570).
    - Field Duplicates: There were no field duplicate samples identified for this SDG.

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE 1891264
Report Number: IQB1861

Sampled: 02/15/07
Received: 02/16/07

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1861-11 (FSBS0062S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B26114	0.80	4.0	ND	1	02/26/07	02/27/07	
Sample ID: IQB1861-12 (FSBS0051S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B26114	0.80	4.0	ND	1	02/26/07	02/27/07	
Sample ID: IQB1861-13 (FSBS0052S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B26114	0.80	4.0	ND	1	02/26/07	02/27/07	
Sample ID: IQB1861-16 (FSBS0054S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B26114	0.80	4.0	ND	1	02/26/07	02/27/07	
Sample ID: IQB1861-18 (FSBS0033S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B26114	0.80	4.0	ND	1	02/26/07	02/27/07	
Sample ID: IQB1861-20 (FSBS0032S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B27069	0.80	4.0	ND	1	02/27/07	02/27/07	
Sample ID: IQB1861-22 (FSBS0036S01 - Soil)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0 DI-RFI	7B26114	8.0	40	ND	10	02/26/07	02/27/07	RL1

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQB2448

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	IQB2448
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	9
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
PRBS0001S01	IQB2448-07	N/A	Soil	2/21/2007 1:05:00 PM	6010B, 6020, 7471A, 9045C
PRBS0001S02	IQB2448-08	N/A	Soil	2/21/2007 1:15:00 PM	9045C
PRBS0002S01	IQB2448-03	N/A	Soil	2/21/2007 11:00:00 AM	6010B, 6020, 7471A, 9045C
PRBS0002S02	IQB2448-04	N/A	Soil	2/21/2007 11:30:00 AM	9045C
PRBS0003S01	IQB2448-01	N/A	Soil	2/21/2007 9:15:00 AM	6010B, 6020, 7471A, 9045C
PRBS0003S02	IQB2448-02	N/A	Soil	2/21/2007 9:35:00 AM	9045C
PRBS0004S01	IQB2448-09	N/A	Soil	2/21/2007 1:40:00 PM	6010B, 6020, 7471A, 9045C
PRBS0005S01	IQB2448-05	N/A	Soil	2/21/2007 12:30:00 PM	6010B, 6020, 7471A, 9045C
PRBS0005S02	IQB2448-06	N/A	Soil	2/21/2007 12:45:00 PM	9045C

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present. Not applicable.	
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: March 31, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B, 6020, 7470A/7471A*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.

- Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Boron and mercury were detected in the method blanks at 1.32 and 0.004 mg/kg, respectively; therefore, boron detected in all samples and mercury detected in PRBS0004S01 were qualified as estimated, "UJ." Lithium was detected in a CCB at 40.5 µg/L; therefore, lithium detected in PRBS0001S01, PRBS0002S01, and PRBS0005S01 was qualified as estimated, "UJ."

- Interference Check Samples: Boron was reported in the ICSA solution at -26.8 µg/L; therefore, nondetected boron in all samples except PRBS0005S01 was qualified as estimated, "UJ."

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on PRBS0001S01. Antimony was recovered below 30% in both the MS and the MSD; therefore, antimony detected in all samples was qualified as estimated, "J." All remaining recoveries and all RPDs were within laboratory-established QC limits.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Field blank BLQW0018F01 (IBQ1202) had no detects. There was no equipment rinsate associated with the samples in this SDG.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

B. EPA METHOD 9045C—General Minerals

Reviewed By: P. Meeks
Date Reviewed: March 31, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 9045C*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 24 hours from preparation for pH, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Not applicable to this analysis.

- Blank Spikes and Laboratory Control Samples: Not applicable to this analysis.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on PRBS0003S01 and the RPD was within the laboratory-established control limit of ≤5%.

- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.

- Sample Result Verification: Review is not applicable at a Level V validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Not applicable to this analysis.

- Field Duplicates: There were no field duplicate samples identified for this SDG.

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB2448

Sampled: 02/21/07
Received: 02/22/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB2448-01 (PRBS0003S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B23097	5.7	11	**14000**	1	02/23/07	02/24/07	
Antimony J/Q	EPA 6020	7B23087	0.034	1.1	**0.30**	1	02/23/07	02/23/07	J
Arsenic	EPA 6020	7B23087	0.28	0.57	**2.5**	1	02/23/07	02/23/07	
Barium	EPA 6020	7B23087	0.091	0.57	**81**	1	02/23/07	02/23/07	
Beryllium	EPA 6020	7B23087	0.046	0.34	**0.51**	1	02/23/07	02/23/07	
Boron UJ/B,I	EPA 6010B	7B23097	1.1	5.7	**3.0**	1	02/23/07	02/24/07	B, J
Cadmium	EPA 6020	7B23087	0.028	0.57	**0.14**	1	02/23/07	02/23/07	J
Chromium	EPA 6020	7B23087	0.40	1.1	**19**	1	02/23/07	02/23/07	
Cobalt	EPA 6020	7B23087	0.091	0.57	**6.2**	1	02/23/07	02/23/07	
Copper	EPA 6020	7B23087	0.23	1.1	**8.9**	1	02/23/07	02/23/07	
Lead	EPA 6020	7B23087	0.057	0.57	**20**	1	02/23/07	02/23/07	
Lithium UJ/B	EPA 6010B	7B23097	4.3	7.2	**25**	1	02/23/07	03/05/07	
Molybdenum	EPA 6020	7B23087	0.11	1.1	**0.45**	1	02/23/07	02/23/07	J
Nickel	EPA 6020	7B23087	0.51	1.1	**11**	1	02/23/07	02/23/07	
Potassium	EPA 6010B	7B23097	22	57	**3100**	1	02/23/07	02/24/07	
Selenium	EPA 6020	7B23087	0.23	1.1	**0.32**	1	02/23/07	02/23/07	J
Silver U	EPA 6020	7B23087	0.057	0.57	ND	1	02/23/07	02/23/07	
Sodium	EPA 6010B	7B23097	27	57	**180**	1	02/23/07	02/24/07	B
Thallium	EPA 6020	7B23087	0.11	0.57	**0.29**	1	02/23/07	02/23/07	J
Vanadium	EPA 6020	7B23087	0.46	1.1	**36**	1	02/23/07	02/23/07	
Zinc	EPA 6020	7B23087	1.5	11	**41**	1	02/23/07	02/23/07	
Zirconium	EPA 6010B	7B23097	1.7	28	**2.3**	1	02/23/07	02/27/07	J

LEVEL V

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7022339
Project ID: IQB2448

Date Received: 02/23/07 08:15
Date Reported: 03/12/07 12:09

PRB5000350l

IQB2448-01 7022339-01 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**88.5**	% by Weight	0.100	1	Gravimetric	W7C0195	03/06/07	03/08/07 clc	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.027**	0.00073	mg/kg dry	0.011	1	EPA 7471A	W7B1093	03/10/07	03/10/07 jl	

* Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB2448

Sampled: 02/21/07
Received: 02/22/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB2448-03 (PRBS0002S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B23097	6.5	13	**16000**	1	02/23/07	02/24/07	
Antimony J/Q	EPA 6020	7B23087	0.039	1.3	**2.7**	1	02/23/07	02/23/07	
Arsenic	EPA 6020	7B23087	0.33	0.65	**3.6**	1	02/23/07	02/23/07	
Barium	EPA 6020	7B23087	0.10	0.65	**95**	1	02/23/07	02/23/07	
Beryllium	EPA 6020	7B23087	0.052	0.39	**0.59**	1	02/23/07	02/23/07	
Boron UJ/B,I	EPA 6010B	7B23097	1.3	6.5	**3.2**	1	02/23/07	02/24/07	B, J
Cadmium	EPA 6020	7B23087	0.033	0.65	**0.23**	1	02/23/07	02/23/07	J
Chromium	EPA 6020	7B23087	0.46	1.3	**24**	1	02/23/07	02/23/07	
Cobalt	EPA 6020	7B23087	0.10	0.65	**7.1**	1	02/23/07	02/23/07	
Copper	EPA 6020	7B23087	0.26	1.3	**12**	1	02/23/07	02/23/07	
Lead	EPA 6020	7B23087	0.065	0.65	**420**	1	02/23/07	02/23/07	
Lithium UJ/B	EPA 6010B	7B23097	5.0	8.2	**31**	1	02/23/07	03/05/07	
Molybdenum	EPA 6020	7B23087	0.13	1.3	**0.63**	1	02/23/07	02/23/07	J
Nickel	EPA 6020	7B23087	0.59	1.3	**15**	1	02/23/07	02/23/07	
Potassium	EPA 6010B	7B23097	25	65	**4500**	1	02/23/07	02/24/07	
Selenium	EPA 6020	7B23087	0.26	1.3	**0.39**	1	02/23/07	02/23/07	J
Silver	EPA 6020	7B23087	0.065	0.65	**0.080**	1	02/23/07	02/23/07	J
Sodium	EPA 6010B	7B23097	31	65	**230**	1	02/23/07	02/24/07	B
Thallium	EPA 6020	7B23087	0.13	0.65	**0.31**	1	02/23/07	02/23/07	J
Vanadium	EPA 6020	7B23087	0.52	1.3	**41**	1	02/23/07	02/23/07	
Zinc	EPA 6020	7B23087	1.7	13	**53**	1	02/23/07	02/23/07	
Zirconium	EPA 6010B	7B23097	2.0	33	**3.5**	1	02/23/07	02/27/07	J

LEVEL V

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7022339
Project ID: IQB2448

Date Received: 02/23/07 08:15
Date Reported: 03/12/07 12:09

PRBS 0003562 2501

IQB2448-03 7022339-02 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**80.0**	% by Weight	0.100	1	Gravimetric	W7C0195	03/06/07	03/08/07 clc	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.35**	0.00081	mg/kg dry	0.012	1	EPA 7471A	W7B1093	03/10/07	03/10/07 jl	

* Analysis not validated

LEVEL V

mm 3/30/07

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB2448

Sampled: 02/21/07
Received: 02/22/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB2448-05 (PRBS0005S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B23097	6.3	13	**13000**	1	02/23/07	02/24/07	
Antimony J/Q	EPA 6020	7B23087	0.038	1.3	**0.13**	1	02/23/07	02/23/07	J
Arsenic	EPA 6020	7B23087	0.32	0.63	**2.1**	1	02/23/07	02/23/07	
Barium	EPA 6020	7B23087	0.10	0.63	**61**	1	02/23/07	02/23/07	
Beryllium	EPA 6020	7B23087	0.051	0.38	**0.42**	1	02/23/07	02/23/07	
Boron ~~UJ/E~~ U	EPA 6010B	7B23097	1.3	6.3	ND	1	02/23/07	02/24/07	
Cadmium	EPA 6020	7B23087	0.032	0.63	**0.10**	1	02/23/07	02/23/07	J
Chromium	EPA 6020	7B23087	0.44	1.3	**14**	1	02/23/07	02/23/07	
Cobalt	EPA 6020	7B23087	0.10	0.63	**4.9**	1	02/23/07	02/23/07	
Copper	EPA 6020	7B23087	0.25	1.3	**7.3**	1	02/23/07	02/23/07	
Lead	EPA 6020	7B23087	0.063	0.63	**4.7**	1	02/23/07	02/23/07	
Lithium UJ/B	EPA 6010B	7B23097	4.8	8.0	**26**	1	02/23/07	03/05/07	
Molybdenum	EPA 6020	7B23087	0.13	1.3	**0.46**	1	02/23/07	02/23/07	J
Nickel	EPA 6020	7B23087	0.57	1.3	**8.4**	1	02/23/07	02/23/07	
Potassium	EPA 6010B	7B23097	24	63	**2300**	1	02/23/07	02/24/07	
Selenium	EPA 6020	7B23087	0.25	1.3	**0.25**	1	02/23/07	02/23/07	J
Silver U	EPA 6020	7B23087	0.063	0.63	ND	1	02/23/07	02/23/07	
Sodium	EPA 6010B	7B23097	30	63	**200**	1	02/23/07	02/24/07	B
Thallium	EPA 6020	7B23087	0.13	0.63	**0.23**	1	02/23/07	02/23/07	J
Vanadium	EPA 6020	7B23087	0.51	1.3	**28**	1	02/23/07	02/23/07	
Zinc	EPA 6020	7B23087	1.6	13	**39**	1	02/23/07	02/23/07	
Zirconium U	EPA 6010B	7B23097	1.9	32	ND	1	02/23/07	02/27/07	

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

PM 3/6/07

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7022339
Project ID: IQB2448

Date Received: 02/23/07 08:15
Date Reported: 03/12/07 12:09

PRBS0005501

IQB2448-05 7022339-03 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**84.0**	% by Weight	0.100	1	Gravimetric	W7C0195	03/06/07	03/08/07 clc	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.029**	0.00077	mg/kg dry	0.012	1	EPA 7471A	W7B1093	03/10/07	03/10/07 jl	

* Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB2448

Sampled: 02/21/07
Received: 02/22/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB2448-07 (PRBS0001S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B23097	5.4	11	**15000**	1	02/23/07	02/24/07	MHA
Antimony J/Q	EPA 6020	7B23087	0.032	1.1	**0.40**	1	02/23/07	02/23/07	M2, J
Arsenic	EPA 6020	7B23087	0.27	0.54	**2.3**	1	02/23/07	02/23/07	
Barium	EPA 6020	7B23087	0.086	0.54	**75**	1	02/23/07	02/23/07	
Beryllium	EPA 6020	7B23087	0.043	0.32	**0.53**	1	02/23/07	02/23/07	
Boron UJ/B,I	EPA 6010B	7B23097	1.1	5.4	**3.1**	1	02/23/07	02/24/07	B, J
Cadmium	EPA 6020	7B23087	0.027	0.54	**0.11**	1	02/23/07	02/23/07	J
Chromium	EPA 6020	7B23087	0.38	1.1	**17**	1	02/23/07	02/23/07	
Cobalt	EPA 6020	7B23087	0.086	0.54	**5.5**	1	02/23/07	02/23/07	
Copper	EPA 6020	7B23087	0.22	1.1	**7.7**	1	02/23/07	02/23/07	
Lead	EPA 6020	7B23087	0.054	0.54	**5.4**	1	02/23/07	02/23/07	
Lithium ~~UJ/B~~	EPA 6010B	7B23097	4.1	6.8	**29**	1	02/23/07	03/05/07	
Molybdenum	EPA 6020	7B23087	0.11	1.1	**0.61**	1	02/23/07	02/23/07	J
Nickel	EPA 6020	7B23087	0.49	1.1	**9.7**	1	02/23/07	02/23/07	
Potassium	EPA 6010B	7B23097	20	54	**3500**	1	02/23/07	02/24/07	MHA
Selenium	EPA 6020	7B23087	0.22	1.1	**0.32**	1	02/23/07	02/23/07	J
Silver U	EPA 6020	7B23087	0.054	0.54	ND	1	02/23/07	02/23/07	
Sodium	EPA 6010B	7B23097	26	54	**180**	1	02/23/07	02/24/07	B
Thallium	EPA 6020	7B23087	0.11	0.54	**0.32**	1	02/23/07	02/23/07	J
Vanadium	EPA 6020	7B23087	0.43	1.1	**32**	1	02/23/07	02/23/07	
Zinc	EPA 6020	7B23087	1.4	11	**46**	1	02/23/07	02/23/07	
Zirconium U	EPA 6010B	7B23097	1.6	27	ND	1	02/23/07	02/27/07	M2

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

m 3/30/07 LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7022339
Project ID: IQB2448

Date Received: 02/23/07 08:15
Date Reported: 03/12/07 12:09

PRBS0001S01

IQB2448-07 7022339-04 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**93.4**	% by Weight	0.100	1	Gravimetric	W7C0195	03/06/07	03/08/07 clc	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.022**	0.00070	mg/kg dry	0.011	1	EPA 7471A	W7B1093	03/10/07	03/10/07 jl	

* Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street. Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB2448

Sampled: 02/21/07
Received: 02/22/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB2448-09 (PRBS0004S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7B23097	5.6	11	**12000**	1	02/23/07	02/24/07	
Antimony J/Q	EPA 6020	7B23087	0.034	1.1	**0.089**	1	02/23/07	02/23/07	J
Arsenic	EPA 6020	7B23087	0.28	0.56	**2.1**	1	02/23/07	02/23/07	
Barium	EPA 6020	7B23087	0.089	0.56	**80**	1	02/23/07	02/23/07	
Beryllium	EPA 6020	7B23087	0.045	0.34	**0.40**	1	02/23/07	02/23/07	
Boron UJ/B,I	EPA 6010B	7B23097	1.1	5.6	**1.9**	1	02/23/07	02/24/07	B, J
Cadmium	EPA 6020	7B23087	0.028	0.56	**0.21**	1	02/23/07	02/23/07	J
Chromium	EPA 6020	7B23087	0.39	1.1	**19**	1	02/23/07	02/23/07	
Cobalt	EPA 6020	7B23087	0.089	0.56	**5.3**	1	02/23/07	02/23/07	
Copper	EPA 6020	7B23087	0.22	1.1	**7.6**	1	02/23/07	02/23/07	
Lead	EPA 6020	7B23087	0.056	0.56	**7.8**	1	02/23/07	02/23/07	
Lithium ~~UJ/B~~	EPA 6010B	7B23097	4.3	7.0	**35**	1	02/23/07	03/05/07	
Molybdenum	EPA 6020	7B23087	0.11	1.1	**0.37**	1	02/23/07	02/23/07	J
Nickel	EPA 6020	7B23087	0.50	1.1	**12**	1	02/23/07	02/23/07	
Potassium	EPA 6010B	7B23097	21	56	**3400**	1	02/23/07	02/24/07	
Selenium	EPA 6020	7B23087	0.22	1.1	**0.28**	1	02/23/07	02/23/07	J
Silver U	EPA 6020	7B23087	0.056	0.56	ND	1	02/23/07	02/23/07	
Sodium	EPA 6010B	7B23097	27	56	**160**	1	02/23/07	02/24/07	B
Thallium	EPA 6020	7B23087	0.11	0.56	**0.24**	1	02/23/07	02/23/07	J
Vanadium	EPA 6020	7B23087	0.45	1.1	**32**	1	02/23/07	02/23/07	
Zinc	EPA 6020	7B23087	1.5	11	**48**	1	02/23/07	02/23/07	
Zirconium	EPA 6010B	7B23097	1.7	28	**2.1**	1	02/23/07	02/27/07	J

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

MM 3/30/07 LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7022339
Project ID: IQB2448

Date Received: 02/23/07 08:15
Date Reported: 03/12/07 12:09

PRBS6004501

IQB2448-09 7022339-05 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**90.8**	% by Weight	0.100	1	Gravimetric	W7C0195	03/06/07	03/08/07 clc	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total UJ/B	**0.017**	0.00072	mg/kg dry	0.011	1	EPA 7471A	W7B1093	03/10/07	03/10/07 jl	

*Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB2448

Sampled: 02/21/07
Received: 02/22/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB2448-01 (PRBS0003S01 - Soil)									
Reporting Units: %									
*Percent Solids	EPA 160.3 MOD	7C01145	0.10	0.10	**88**	1	03/01/07	03/02/07	
Sample ID: IQB2448-03 (PRBS0002S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7C01145	0.10	0.10	**77**	1	03/01/07	03/02/07	
Sample ID: IQB2448-05 (PRBS0005S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7C01145	0.10	0.10	**79**	1	03/01/07	03/02/07	
Sample ID: IQB2448-07 (PRBS0001S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7C01145	0.10	0.10	**93**	1	03/01/07	03/02/07	
Sample ID: IQB2448-09 (PRBS0004S01 - Soil)									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7C01145	0.10	0.10	**89**	1	03/01/07	03/02/07	
Sample ID: IQB2448-01 (PRBS0003S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B23117	N/A	NA	**6.49**	1	02/23/07	02/23/07	
Sample ID: IQB2448-02 (PRBS0003S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B23117	N/A	NA	**6.91**	1	02/23/07	02/23/07	
Sample ID: IQB2448-03 (PRBS0002S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B23117	N/A	NA	**7.43**	1	02/23/07	02/23/07	
Sample ID: IQB2448-04 (PRBS0002S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B23117	N/A	NA	**7.35**	1	02/23/07	02/23/07	
Sample ID: IQB2448-05 (PRBS0005S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B23117	N/A	NA	**6.47**	1	02/23/07	02/23/07	

* Analysis not validated

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB2448

Sampled: 02/21/07
Received: 02/22/07

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB2448-06 (PRBS0005S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B23117	N/A	NA	**6.59**	1	02/23/07	02/23/07	
Sample ID: IQB2448-07 (PRBS0001S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B23117	N/A	NA	**5.23**	1	02/23/07	02/23/07	
Sample ID: IQB2448-08 (PRBS0001S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B23117	N/A	NA	**6.33**	1	02/23/07	02/23/07	
Sample ID: IQB2448-09 (PRBS0004S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B23117	N/A	NA	**6.03**	1	02/23/07	02/23/07	

LEVEL V

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQB2577

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	IQB2577
Project Manager:	Dixie Hambrick
Matrix:	water
QC Level:	V
No. of Samples:	10
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample name	Matrix Type	Collection Date	Method
FSBS0006S02	IQB2577-01	N/A	Soil	22-Feb-07	9045C
FSBS0005S02	IQB2577-02	N/A	Soil	22-Feb-07	9045C
FSBS0002S01	IQB2577-03	N/A	Soil	22-Feb-07	1613B
FSBS0010S01	IQB2577-04	N/A	Soil	22-Feb-07	314.0-DI WET
FSBS0003S01	IQB2577-05	N/A	Soil	22-Feb-07	7471A, 8082, 9045C
FSBS0003S02	IQB2577-06	N/A	Soil	22-Feb-07	9045C
FSBS0008S01	IQB2577-07	N/A	Soil	22-Feb-07	314.0-DI WET
FSBS0008S02	IQB2577-08	N/A	Soil	22-Feb-07	314.0-DI WET
FSBS0009S01	IQB2577-10	N/A	Soil	22-Feb-07	314.0-DI WET
FSBS0009S02	IQB2577-11	N/A	Soil	22-Feb-07	314.0-DI WET

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present. Not applicable.	
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight
Date Reviewed: March 26, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (8/02).

- Holding Times: Extraction and analytical holding times were met. The soil sample was extracted and analyzed within one year of collection.

- Instrument Performance: Review is not applicable at a level V validation.

- Calibration: Review is not applicable at a level V validation.

- Blanks: Target compounds OCDD, 2,3,7,8-TCDF, and total TCDFs were reported in the method blank at concentrations above the EDL. 2,3,7,8-TCDF was reported in the sample at a concentration less than five times the concentration reported in the method blank; therefore, the detect for 2,3,7,8-TCDF was qualified as an estimated nondetect, "UJ," at the level of interference. As a portion of total TCDFs included 2,3,7,8-TCDF, the result was qualified as estimated, "J," due to method blank contamination.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: There were numerous detects in the field blank, BLQW0018F01 (IQB1202), and the equipment rinsate, FSQW0002E01 (IQB2570); however, sample qualification was not required.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

- Internal Standards Performance: Internal standard recoveries are not routinely evaluated at a Level V validation; however, the recoveries were reported on the sample result summary. The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.

- Compound Identification: Review is not applicable at a level V validation. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a level V validation. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Reported nondetects are valid to the estimated detection limit (EDL).

B. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: Patti Meeks
Date Reviewed: March 31, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 7471A*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days for mercury, was met.

- Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: There were no applicable method blanks or CCB detects.

- Interference Check Samples: Review is not applicable at a Level V validation.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD were performed for the mercury. Recoveries and RPDs were within the laboratory-established control limits.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC

data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: Mercury was not detected in field blank BLQW0018F01 (IQB1202) or equipment rinsate FSQW0002E01 (IQB2570).

- Field Duplicates: There were no field duplicate samples identified for this SDG.

C. EPA METHOD 314.0—Perchlorate

Reviewed By: Patti Meeks
Date Reviewed: March 31, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days, was met.

- Calibration: Review is not applicable at a Level V validation; however, the reviewer noted that a CCV was recovered above the program control limit at 112%. Perchlorate detected in associated samples, FSBS0008S01 and FSBS0008S02, was qualified as estimated, "J." The reviewer also noted an ICCS recovery below the program control limit at 83%; therefore, perchlorate in all samples was qualified as estimated, "UJ," for nondetects and, "J," for detects.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the method-established QC limits of 85-115%.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on FSBS0009S01. Recoveries were within the method-established QC limits of 80-120% and the RPD was within the method established control limit of ≤15%.

- Sample Result Verification: The sample result reported on the Form I were verified against the raw data. No transcription errors or calculation errors were noted. The recoveries for confirmation spikes performed for FSBS0008S01 and FSBS0008S02 were above the control limit at 133% and 147%, respectively; therefore, perchlorate detected in the two samples was qualified as estimated, "J." In order to report perchlorate within the linear range of the calibration, FSBS0008S01 and FSBS0008S02 were reported from 500× and 10× dilutions, respectively. Reported nondetects are valid to the reporting limit.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Perchlorate was not detected in field blank BLQW0018F01 (IBQ1202) or equipment rinsate FSBS0002E01 (IBQ2570).

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

D. EPA METHOD 8082—PCBs

Reviewed By: L. Calvin
Date Reviewed: March 28, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 8082*, and the *National Functional Guidelines for Organic Data Review* (2/94).

- Holding Times: Extraction and analytical holding times were met. The soil samples were extracted within 14 days of collection and analyzed within 40 days of extraction.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: The method blanks had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the samples of this SDG.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Field blank BLQW0018F01 (IQB1202) and equipment rinsate FSQW0002E01 (IQB2570) had no reported target compound detects above the MDL.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

- Compound Identification: Review is not applicable at a Level V validation.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. Any results reported between the MDL and the reporting limit were qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

E. EPA METHOD 9045C—General Minerals

Reviewed By: Patti Meeks
Date Reviewed: March 31, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 9045C*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 24 hours from preparation, was met.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Not applicable to this analysis.

- Blank Spikes and Laboratory Control Samples: Not applicable to this analysis.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on FSBS0006S01 and the RPD was within the laboratory-established control limit of ≤5%.

- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.

- Sample Result Verification: Review is not applicable at a Level V validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Not applicable to this analysis.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

Method 1613

IQB2577-03 FSBS0002501

Test America

Analytical Data Summary Sheet

Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.259	0.948			
1,2,3,7,8-PeCDD	ND	0.215	4.74			
1,2,3,4,7,8-HxCDD	ND	0.276	4.74			
1,2,3,6,7,8-HxCDD	0.432	0.316	4.74	36:42	1.23	A
1,2,3,7,8,9-HxCDD	ND	0.294	4.74			
1,2,3,4,6,7,8-HpCDD	2.02	0.359	4.74	39:58	0.94	A
OCDD	13.7	0.424	9.48	44:09	0.93	
2,3,7,8-TCDF	0.908	0.327	0.948	30:26	0.82	A
1,2,3,7,8-PeCDF	ND	0.187	4.74			
2,3,4,7,8-PeCDF	0.209	0.167	4.74	33:51	1.4	A
1,2,3,4,7,8-HxCDF	ND	0.143	4.74			
1,2,3,6,7,8-HxCDF	ND	0.132	4.74			
2,3,4,6,7,8-HxCDF	ND	0.139	4.74			
1,2,3,7,8,9-HxCDF	0.409	0.182	4.74	37:15	1.17	A
1,2,3,4,6,7,8-HpCDF	0.739	0.213	4.74	38:43	1.11	A
1,2,3,4,7,8,9-HpCDF	ND	0.303	4.74			
OCDF	1.29	0.442	9.48	44:26	0.83	A
Total TCDDs	ND	0.259	0.948			
Total PeCDDs	ND	0.215	4.74			
Total HxCDDs	1.34	0.295	4.74			A
Total HpCDDs	4.50	0.359	4.74			A
Total TCDFs	2.23	0.327	0.948			
Total PeCDFs	1.67	0.177	4.74			A
Total HxCDFs	1.36	0.147	4.74			A
Total HpCDFs	2.04	0.254	4.74			A
WHO-2005 TEQ (ND=0)	0.270					
WHO-2005 TEQ (ND=½)	0.850					

Client Information			**Sample Information**		
Project Name:	IQB2577		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	IQB2577-03		Weight / Volume:	12.09	Grams
			Solids / Lipids:	87.3	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14129	
Project ID:	G579-230				
Sample ID:	G579-230-1B		Filename:	a02mar07a_2-5	
Collection Date/Time:	22-Feb-07	10:40	Retchk:	a02mar07a-15	
Receipt Date:	24-Feb-07	10:00	Begin ConCal:	a02mar07a-15	
Extraction Date:	28-Feb-07				
Analysis Date:	3-Mar-07	1:43	Initial Cal:	m1613-071006e	

Level V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7022607
Project ID: IQB2577

Date Received: 02/26/07 08:00
Date Reported: 03/13/07 09:50

FSBS0003501

IQB2577-05 7022607-01 (Solid)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
% Solids *	**84.0**	% by Weight	0.100	1	Gravimetric	W7C0195	03/06/07	03/08/07 clc	

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**0.039**	0.00077	mg/kg dry	0.012	1	EPA 7471A	W7B1093	03/10/07	03/10/07 jl	

* Analysis not validated

LEVEL V

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB2577

Sampled: 02/22/07
Received: 02/23/07

POLYCHLORINATED BIPHENYLS (EPA 3545/8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB2577-05 (FSBS0003S01 - Soil)									
Reporting Units: ug/kg dry									
Aroclor 1016 U	EPA 8082	7B27094	19	62	ND	1	02/27/07	03/01/07	
Aroclor 1221	EPA 8082	7B27094	19	62	ND	1	02/27/07	03/01/07	
Aroclor 1232	EPA 8082	7B27094	12	62	ND	1	02/27/07	03/01/07	
Aroclor 1242	EPA 8082	7B27094	12	62	ND	1	02/27/07	03/01/07	
Aroclor 1248	EPA 8082	7B27094	12	62	ND	1	02/27/07	03/01/07	
Aroclor 1254	EPA 8082	7B27094	12	62	ND	1	02/27/07	03/01/07	
Aroclor 1260	EPA 8082	7B27094	12	62	ND	1	02/27/07	03/01/07	
Surrogate: Decachlorobiphenyl (45-120%)					*69 %*				

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

Level IV

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB2577

Sampled: 02/22/07
Received: 02/23/07

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB2577-05 (FSBS0003S01 - Soil) - cont.									
Reporting Units: %									
Percent Solids	EPA 160.3 MOD	7C01145	0.10	0.10	**81**	1	03/01/07	03/02/07	
Sample ID: IQB2577-01 (FSBS0006S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B24061	N/A	NA	**7.93**	1	02/24/07	02/24/07	
Sample ID: IQB2577-02 (FSBS0005S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B24061	N/A	NA	**8.27**	1	02/24/07	02/24/07	
Sample ID: IQB2577-05 (FSBS0003S01 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B24061	N/A	NA	**7.68**	1	02/24/07	02/24/07	
Sample ID: IQB2577-06 (FSBS0003S02 - Soil)									
Reporting Units: pH Units									
pH	EPA 9045C	7B24061	N/A	NA	**8.32**	1	02/24/07	02/24/07	
Sample ID: IQB2577-04 (FSBS0010S01 - Soil)									
Reporting Units: ug/l									
Perchlorate UJ/R	EPA 314.0 DI-RFI	7C01138	0.80	4.0	ND	1	03/01/07	03/07/07	
Sample ID: IQB2577-07 (FSBS0008S01 - Soil)									
Reporting Units: ug/l									
Perchlorate J/R,*III	EPA 314.0 DI-RFI	7C01138	400	2000	**3600**	500	03/01/07	03/07/07	
Sample ID: IQB2577-08 (FSBS0008S02 - Soil)									
Reporting Units: ug/l									
Perchlorate J/R,*III	EPA 314.0 DI-RFI	7C01138	8.0	40	**110**	10	03/01/07	03/07/07	
Sample ID: IQB2577-10 (FSBS0009S01 - Soil)									
Reporting Units: ug/l									
Perchlorate UJ/R	EPA 314.0 DI-RFI	7C01138	0.80	4.0	ND	1	03/01/07	03/07/07	
Sample ID: IQB2577-11 (FSBS0009S02 - Soil)									
Reporting Units: ug/l									
Perchlorate ~~U/J~~ UJ/R	EPA 314.0 DI-RFI	7C01138	0.80	4.0	ND	1	03/01/07	03/07/07	

LEVEL V

TestAmerica - Irvine, CA
Nicholas Marz For Michele Chamberlin
Project Manager

mm 3/4/07

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQC2076

Prepared by

MEC^{X}, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.002
Sample Delivery Group:	IQC2076
Project Manager:	Dixie Hambrick
Matrix:	Soil
QC Level:	V
No. of Samples:	4
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
PRBS0001S02	IQC2076-04	N/A	Soil	2/21/2007 1:15:00 PM	6010B
PRBS0002S02	IQC2076-02	N/A	Soil	2/21/2007 11:30:00 AM	6010B, 6020
PRBS0003S02	IQC2076-01	N/A	Soil	2/21/2007 9:35:00 AM	6010B
PRBS0005S02	IQC2076-03	N/A	Soil	2/21/2007 12:45:00 PM	6010B

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not Applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: April 10, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B and 6020,* and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals, were met.

- Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: Method blanks and CCBs had no detects.

- Interference Check Samples Review is not applicable at a Level V validation.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: Field blank BLQW0018F01 (IQB1202) had no detects. The samples in this SDG had no associated equipment rinsate.

- Field Duplicates: There were no field duplicate samples identified for this SDG.

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE 1891264
Report Number: IQC2076

Sampled: 02/21/07
Received: 03/20/07

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQC2076-01 (PRBS0003S02 - Soil)									
Reporting Units: mg/kg dry									
Sodium	EPA 6010B	7C20108	27	56	**160**	0.995	03/20/07	03/21/07	
Sample ID: IQC2076-02 (PRBS0002S02 - Soil)									
Reporting Units: mg/kg dry									
Lead	EPA 6020	7C20121	0.057	0.57	**5.4**	0.99	03/20/07	03/21/07	
Sodium	EPA 6010B	7C20108	27	57	**150**	0.995	03/20/07	03/21/07	
Sample ID: IQC2076-03 (PRBS0005S02 - Soil)									
Reporting Units: mg/kg dry									
Sodium	EPA 6010B	7C20108	30	62	**85**	1	03/20/07	03/21/07	
Sample ID: IQC2076-04 (PRBS0001S02 - Soil)									
Reporting Units: mg/kg dry									
Sodium	EPA 6010B	7C20108	25	53	**77**	1	03/20/07	03/21/07	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQC2271

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.002
Sample Delivery Group:	IQC2271
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	11
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
FSBS0066S02	IQC2271-01	N/A	Soil	2/13/2007	1613
FSBS0064S02	IQC2271-02	N/A	Soil	2/13/2007	6020
FSBS0064S03	IQC2271-03	N/A	Soil	2/13/2007	6020
FSBS0068S01	IQC2271-04	N/A	Soil	2/13/2007	1613
FSBS0022S02	IQC2271-05	N/A	Soil	2/14/2007	6020
FSBS0024S01	IQC2271-06	N/A	Soil	2/14/2007	6020
FSBS0041S01	IQC2271-07	N/A	Soil	2/15/2007	6020
FSBS0053S01	IQC2271-08	N/A	Soil	2/15/2007	6020
FSBS0031S01	IQC2271-09	N/A	Soil	2/15/2007	6020
FSBS0034S01	IQC2271-10	N/A	Soil	2/15/2007	6010B
FSBS0013S01	IQC2271-11	N/A	Soil	2/16/2007	7471A

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client IDs were added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

II. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight
Date Reviewed: April 26, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (8/02).

- Holding Times: Extraction and analytical holding times were met. The samples were extracted and analyzed within one year of collection.

- Instrument Performance: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: There were several detects above the EDL in the associated method blank. Any detects reported at less than five times the concentrations reported in the method blank were qualified as estimated nondetects, "UJ," at the reporting limits in the samples of this SDG. As a portion of the results for total TCDFs and total PeCDF in sample FSBS0068S01 included method blank contamination, these detects were qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Sample FSQW0003F01 (SDG 183627) was the field blank and sample FSQW0003E01 (SDG 183627) was the equipment rinsate identified for this SDG. Total TCDFs was reported in both the field blank and the equipment rinsate and 1,2,3,4,7,8-HxCDF and 1,2,3,6,7,8-HxCDF were reported in the equipment rinsate only. There were no qualifications for the site samples of this SDG.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

- Internal Standards Performance: Internal standard recoveries are not routinely evaluated at a Level V validation; however, the recoveries were reported on the sample result summaries. The labeled standard recoveries were within the acceptance criteria listed in

Table 7 of Method 1613.

- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Nondetects are valid to the estimated detection limit (EDL).

B. EPA METHODS 6010B, 6020, and 7471A—Metals

Reviewed By: P. Meeks
Date Reviewed: April 26, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B 6020, and 7471A,* and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.

- Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: There were no detects in the method blanks or CCBs.

- Interference Check Samples: Review is not applicable at a Level V validation.

- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on FSBS0064S02 for arsenic and lead only. The recoveries and RPDs were within the laboratory-established control limits.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities

measured in the initial calibration.

- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Sodium was detected in field blank FSQW0003F01 (183627), but not at sufficient concentration to qualify the site samples. The samples in this SDG had no identified equipment rinsate sample.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

Method 1613--Boeing

IQC2271-01 FSBS0066502 ✱ LS 4/26/07

Test America

Analytical Data Summary Sheet

Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.109	0.840			
1,2,3,7,8-PeCDD	ND	0.0978	4.20			
1,2,3,4,7,8-HxCDD	ND	0.0961	4.20			
1,2,3,6,7,8-HxCDD	ND	0.104	4.20			
1,2,3,7,8,9-HxCDD	ND	0.0993	4.20			
1,2,3,4,6,7,8-HpCDD	ND	0.182	4.20			
OCDD	2.40	0.338	8.40	44:25	0.91	A
2,3,7,8-TCDF	0.267	0.102	0.840	30:34	0.87	A
1,2,3,7,8-PeCDF	0.0857	0.0603	4.20	33:19	1.53	A
2,3,4,7,8-PeCDF	0.0790	0.0563	4.20	33:56	1.58	A
1,2,3,4,7,8-HxCDF	ND	0.0761	4.20			
1,2,3,6,7,8-HxCDF	ND	0.0746	4.20			
2,3,4,6,7,8-HxCDF	ND	0.0758	4.20			
1,2,3,7,8,9-HxCDF	ND	0.108	4.20			
1,2,3,4,6,7,8-HpCDF	ND	0.110	4.20			
1,2,3,4,7,8,9-HpCDF	ND	0.168	4.20			
OCDF	ND	0.332	8.40			
Total TCDDs	ND	0.109	0.840			
Total PeCDDs	ND	0.0978	4.20			
Total HxCDDs	ND	0.0998	4.20			
Total HpCDDs	0.281	0.182	4.20			A
Total TCDFs	0.267	0.102	0.840			A
Total PeCDFs	0.165	0.0583	4.20			A
Total HxCDFs	ND	0.0827	4.20			
Total HpCDFs	ND	0.135	4.20			
WHO-2005 TEQ (ND=0)	0.0537					
WHO-2005 TEQ (ND=½)	0.329					

Client Information			**Sample Information**		
Project Name:	IQC2271		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	IQC2271-01		Weight / Volume:	12.93	Grams
			Solids / Lipids:	92.0	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14169	
Project ID:	G579-241				
Sample ID:	G579-241-1B		Filename:	a30mar07b-10	
Collection Date/Time:	13-Feb-07	09:55	Retchk:	a30mar07b-1	
Receipt Date:	22-Mar-07	10:00	Begin ConCal:	a30mar07b-1	
Extraction Date:	26-Mar-07				
Analysis Date:	31-Mar-07	5:24	Initial Cal:	m1613-071006e	

Level IV

Method 1613--Boeing

IQC2271-04 FSB5006850 I

Test America

Analytical Data Summary Sheet

Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.159	0.827			
1,2,3,7,8-PeCDD	ND	0.163	4.14			
1,2,3,4,7,8-HxCDD	ND	0.187	4.14			
1,2,3,6,7,8-HxCDD	ND	0.205	4.14			
1,2,3,7,8,9-HxCDD	ND	0.195	4.14			
1,2,3,4,6,7,8-HpCDD	2.18	0.333	4.14	40:07	0.97	A
OCDD	19.9	0.844	8.27	44:25	0.88	
2,3,7,8-TCDF	0.382	0.167	0.827	30:34	0.81	A
1,2,3,7,8-PeCDF	0.103	0.0923	4.14	33:19	1.72	A
2,3,4,7,8-PeCDF	0.159	0.0847	4.14	33:56	1.34	A
1,2,3,4,7,8-HxCDF	ND	0.130	4.14			
1,2,3,6,7,8-HxCDF	ND	0.124	4.14			
2,3,4,6,7,8-HxCDF	ND	0.123	4.14			
1,2,3,7,8,9-HxCDF	ND	0.194	4.14			
1,2,3,4,6,7,8-HpCDF	0.566	0.200	4.14	38:52	1.04	A
1,2,3,4,7,8,9-HpCDF	ND	0.341	4.14			
OCDF	1.03	0.724	8.27	44:41	0.97	A
Total TCDDs	ND	0.159	0.827			
Total PeCDDs	ND	0.163	4.14			
Total HxCDDs	0.700	0.196	4.14			A
Total HpCDDs	4.99	0.333	4.14			
Total TCDFs	0.860	0.167	0.827			
Total PeCDFs	0.940	0.0885	4.14			A
Total HxCDFs	0.630	0.140	4.14			A
Total HpCDFs	1.21	0.260	4.14			A
WHO-2005 TEQ (ND=0)	0.123					
WHO-2005 TEQ (ND=½)	0.564					

Client Information			**Sample Information**		
Project Name:	IQC2271		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	IQC2271-04		Weight / Volume:	13.16	Grams
			Solids / Lipids:	91.8	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14169	
Project ID:	G579-241				
Sample ID:	G579-241-2B		Filename:	a31mar07a_6-4	
Collection Date/Time:	13-Feb-07	12:05	Retchk:	a31mar07a_5-13	
Receipt Date:	22-Mar-07	10:00	Begin ConCal:	a31mar07a_5-13	
Extraction Date:	26-Mar-07				
Analysis Date:	2-Apr-07	18:07	Initial Cal:	m1613-071006e	

Level II

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE 1891264
Report Number: IQC2271

Sampled: 02/13/07-02/16/07
Received: 03/21/07

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQC2271-02 (FSBS0064S02 - Soil)					**Sampled: 02/13/07**				
Reporting Units: mg/kg dry									
Lead	EPA 6020	7C23088	0.054	0.54	**5.9**	0.995	03/23/07	03/23/07	
Sample ID: IQC2271-03 (FSBS0064S03 - Soil)					**Sampled: 02/13/07**				
Reporting Units: mg/kg dry									
Lead	EPA 6020	7C23088	0.055	0.55	**5.7**	0.995	03/23/07	03/23/07	
Sample ID: IQC2271-05 (FSBS0022S02 - Soil)					**Sampled: 02/14/07**				
Reporting Units: mg/kg dry									
Arsenic	EPA 6020	7C23088	0.26	0.53	**7.4**	1	03/23/07	03/23/07	
Sample ID: IQC2271-06 (FSBS0024S01 - Soil)					**Sampled: 02/14/07**				
Reporting Units: mg/kg dry									
Arsenic	EPA 6020	7C23088	0.28	0.55	**14**	0.995	03/23/07	03/23/07	
Sample ID: IQC2271-07 (FSBS0041S01 - Soil)					**Sampled: 02/15/07**				
Reporting Units: mg/kg dry									
Arsenic	EPA 6020	7C23088	0.27	0.54	**7.7**	0.995	03/23/07	03/23/07	
Sample ID: IQC2271-08 (FSBS0053S01 - Soil)					**Sampled: 02/15/07**				
Reporting Units: mg/kg dry									
Arsenic	EPA 6020	7C23088	0.27	0.54	**10**	0.99	03/23/07	03/23/07	
Sample ID: IQC2271-09 (FSBS0031S01 - Soil)					**Sampled: 02/15/07**				
Reporting Units: mg/kg dry									
Arsenic	EPA 6020	7C23088	0.27	0.54	**4.6**	0.995	03/23/07	03/23/07	
Sample ID: IQC2271-10 (FSBS0034S01 - Soil)					**Sampled: 02/15/07**				
Reporting Units: mg/kg dry									
Sodium	EPA 6010B	7C23117	27	56	**28**	1	03/23/07	03/27/07	J

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 7032218
Project ID: IQC2271

Date Received: 03/22/07 12:30
Date Reported: 04/05/07 09:42

IQC2271-11 7032218-01 (Solid)

O-09

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total	**6.1**	0.015	mg/kg dry	0.22	20	EPA 7471A	W7C1010	03/23/07	03/30/07 tl	

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQD0788

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.002
Sample Delivery Group:	IQD0788
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
FSBS0014S01	IQD0788-01	7041003-01	Soil	2/13/2007	7471A

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, client IDs were added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

II. Method Analyses

A. EPA METHOD 7471A—Mercury

Reviewed By: P. Meeks
Date Reviewed: April 26, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 7471A,* and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 28 days for mercury, was exceeded; therefore, mercury was qualified as estimated, "J."

- Tuning: Review is not applicable at a Level V validation.

- Calibration: Review is not applicable at a Level V validation.

- Blanks: There were no detects in the method blanks or CCBs.

- Interference Check Samples: Review is not applicable at a Level V validation.

- Blank Spikes and Laboratory Control Samples: The recovery was within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on FSBS0014S012 for mercury. The recoveries and RPDs were within the laboratory-established control limits.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: Not applicable to this analysis.

- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: Mercury was not detected in field blank FSQW0003F01 (183627). The samples in this SDG had no identified equipment rinsate sample.

- Field Duplicates: There were no field duplicate samples identified for this SDG.

TestAmerica
ANALYTICAL TESTING CORPORATION

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQD0788

Sampled: 02/13/07
Received: 04/09/07

Metals (Non-Aqueous) by EPA 6000/7000 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQD0788-01 (FSBS0014S01 - Soil) - cont.									
Reporting Units: mg/kg dry									
Mercury, Total J/H	EPA 7471A	W7D0360	0.00075	0.012	**0.16**	1	04/11/07	04/12/07	O-09

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQE1350

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.002
Sample Delivery Group:	IQE1350
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Laboratory:	STL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
FSBS0003S01	IQE1350-01	N/A	Soil	2/22/2007 11:35:00 AM	6010B
FSBS0003S02	IQE1350-02	N/A	Soil	2/22/2007 11:39:00 AM	6010B

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. The samples were initially placed on hold by MWH staff and were subsequently released from hold and analyzed. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHODS 6010B—Metals

Reviewed By: E. Wessling
Date Reviewed: May 31, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 6010B* and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, six months for ICP metals, was met.
- Tuning: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blank 7E18136-BLK1 had a detect for sodium; therefore the detect for sodium in sample FSBS0003S01 was qualified as an estimated nondetect, "UJ," at the reporting limit. No other detects were noted in the blanks.
- Interference Check Samples: Review is not applicable at a Level V validation.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on a sample from this SDG; therefore, accuracy evaluation was based upon LCS recoveries only.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: Not applicable for this analysis.
- Sample Result Verification: Review is not applicable at a Level V validation. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

- Field Duplicates: There were no field duplicate samples identified for this SDG.

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
San Diego, CA 92123
Attention: Lisa J. Tucker

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQE1350

Sampled: 02/22/07
Received: 05/11/07

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE1350-01 (FSBS0003S01 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7E18136	6.1	12	**16000**	0.995	05/18/07	05/19/07	
Sodium	EPA 6010B	7E18136	29	61	**68**	0.995	05/18/07	05/19/07	B
Sample ID: IQE1350-02 (FSBS0003S02 - Soil)									
Reporting Units: mg/kg dry									
Aluminum	EPA 6010B	7E18136	5.6	11	**16000**	0.995	05/18/07	05/19/07	
Sodium	EPA 6010B	7E18136	27	56	**360**	0.995	05/18/07	05/19/07	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

DATA ASSESSMENT FORM

Project Title:	Rocketdyne
Project Manager:	D. Hambrick
Analysis/Method:	Dioxins and Furans/EPA Method 8290
QC Level:	V[1]
SDG:	IJJ0179
Matrix:	Soil
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Date Reviewed:	February 27, 2002
Reviewer:	L. Calvin
References:	National Functional Guidelines for Organic Data Review (2/94) and SW-846 Method 8290 (9/94).
Samples Reviewed:	PCS-46B, PCS-47B

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC had appropriate relinquish and receipt signatures. The samples were received at Triangle Laboratories with a cooler temperature within the limits of 4°C ±2°C. The COC noted that the samples were received intact. The samples were extracted within 30 days of collection and analyzed within 45 days of extraction.	No qualifications were required.
4. Method Blanks	One soil method blank was extracted and analyzed with the samples in this SDG. Detects for 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8,9-OCDD, 2,3,7,8-TCDF, 2,3,4,7,8-PeCDF, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF, and all totals were reported in the method blank. Results reported only as EMPCs in the method blank were considered nondetects.	All reported sample detects for the aforementioned target compounds and total HpCDF in the associated samples were less than five times the blank concentrations, and were therefore qualified as estimated nondetects, "UJ," at the levels of interference. As all other total concentrations in the samples included isomer concentrations other than the reported individual congeners, the sample totals were not qualified as method blank contamination.

	Findings	Qualifications
5. LCS/BS	One soil LCS/LCSD pair was extracted and analyzed with the samples in this SDG. All percent recoveries were within the laboratory QC limits of 70-130%, and all RPDs were within the QC limit of 20%.	No qualifications were required.
6. MS/MSDs	No MS/MSD analyses were performed in this SDG. Evaluation of method accuracy and precision were based on the LCS/LCSD results.	No qualifications were required.
7. Field QC Samples ER: None FB: None FD: None	No field QC samples were identified for the samples in this SDG.	No qualifications were required.
9. Internal Standards	All internal standard recoveries were within the method QC limits of 40-135%.	No qualifications were required.
10. Other	Any individual congener results reported as EMPCs were considered nondetects, as were any totals reported only as EMPCs. Some total results which included individual congener results were also reported as EMPCs. Confirmation analyses on a DB-225 column were performed for the 2,3,7,8-TCDF sample results reported as EMPCs. The sample results were reported on a dry-weight basis. Results reported with the laboratory qualifier "J," were concentrations below the lower calibration level.	All target compound and total EMPCs were qualified as estimated nondetects, "UJ." Any totals also including individual congener concentrations were qualified as estimated, "J." Results for 2,3,7,8-TCDF on the DB-5 column were rejected, "R," in favor of the confirmation results.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Del Mar Analytical

TLI Project: **52059** — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: **IJJ0178-01/PCS-46B** — Analysis File: **T005064**

Client Project:	IJJ0178				
Sample Matrix:	SOIL	Date Received:	10/07/2000	Spike File:	SPMIT32S
TLI ID:	271-89-1	Date Extracted:	10/12/2000	ICal:	TF57140
		Date Analyzed:	10/18/2000	ConCal:	T005054
Sample Size:	11.800 g	Dilution Factor:	n/a	% Moisture:	15.2
Dry Weight:	10.006 g	Blank File:	U159401	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DPW	% Solids:	84.8

Analytes			Conc. (pg/g)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	U		ND	0.3				—
1,2,3,7,8-PeCDD	↓		ND	0.3				—
1,2,3,4,7,8-HxCDD	J		0.45			1.21	34:11	JB_
1,2,3,6,7,8-HxCDD	UJ	B	0.89			1.28	34:17	JB_
1,2,3,7,8,9-HxCDD	↓	↓	0.82			1.33	34:37	JB_
1,2,3,4,6,7,8-HpCDD			1.9			1.11	37:44	JB_
1,2,3,4,6,7,8,9-OCDD			1.5			1.00	41:40	JB_
2,3,7,8-TCDF	R	D	EMPC		1.0			B__
1,2,3,7,8-PeCDF	J		0.59			1.78	30:07	JB_
2,3,4,7,8-PeCDF	UJ	B	0.60			1.41	30:46	JB_
1,2,3,4,7,8-HxCDF	↓	↓	1.2			1.31	33:28	JB_
1,2,3,6,7,8-HxCDF		*10	EMPC		0.50			JB_
2,3,4,6,7,8-HxCDF		↓	EMPC		0.56			JB_
1,2,3,7,8,9-HxCDF	U		ND	0.3				—
1,2,3,4,6,7,8-HpCDF	UJ	B	1.4			1.18	36:36	JB_
1,2,3,4,7,8,9-HpCDF	U		ND	0.4				—
1,2,3,4,6,7,8,9-OCDF	↓		ND	0.7				—

Totals			Conc. (pg/g)	Number	DL	EMPC	Flags
Total TCDD	UJ	*10	EMPC			0.53	—
Total PeCDD	J		3.0	2		3.5	—
Total HxCDD	↓	↓	4.8	5		6.5	—
Total HpCDD			3.0	2			—
Total TCDF	J	*10	2.4	4		5.4	—
Total PeCDF	↓	↓	1.7	3		4.6	—
Total HxCDF			3.3	3		4.3	—
Total HpCDF	UJ	B	1.4	1			—

AMENDED

MIT3_PSR v1.00, LARS 6.25.001

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

LEVEL V

Printed: 18:31 10/18/2000

Del Mar Analytical

TLI Project: **52059** Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: **IJJ0178-01/PCS-46B** Analysis File: **P003694**

Client Project:	**IJJ0178**			ICal:	**PF2N229**
Sample Matrix:	**SOIL**	Date Received:	**10/07/2000**	Spike File:	**SPC2NF2S**
TLI ID:	**271-89-1**	Date Extracted:	**10/12/2000**	1st CCal:	**P003686**
		Date Analyzed:	**10/18/2000**	End CCal:	**P003698**
Sample Size:	**11.800 g**	Dilution Factor:	**n/a**	% Moisture:	**15.2**
Dry Weight:	**10.006 g**	Blank File:	**U159401**	% Lipid:	**n/a**
GC Column:	**DB-225**	Analyst:	**JMM**	% Solids:	**84.8**

Analytes	rev qual	qual code	Conc. (pg/g)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	UJ	B	0.43			0.72	24:08	JB_

Internal Standard	Conc. (pg/g)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	146	73.3	40%-130%	0.81	24:07	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.84	22:56	___

AMEC VALIDATED
LEVEL V

Data Reviewer: _____ 10/18/2000

C2NF_PSR v2.03, LARS 6.25.001

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 18:44 10/18/2000

Del Mar Analytical

TLI Project: **52059** Method 8290 PCDD/PCDF Analysis (b)

Client Sample: **IJJ0178-02/PCS-47B** Analysis File: **T005065**

Client Project:	IJJ0178				
Sample Matrix:	SOIL	Date Received:	10/07/2000	Spike File:	SPMIT32S
TLI ID:	271-89-2	Date Extracted:	10/12/2000	ICal:	TF57140
		Date Analyzed:	10/18/2000	ConCal:	T005054
Sample Size:	11.700 g	Dilution Factor:	n/a	% Moisture:	13.8
Dry Weight:	10.085 g	Blank File:	U159401	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DPW	% Solids:	86.2

Analytes	qual	qual code	Conc. (pg/g)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	U		ND	0.4				
1,2,3,7,8-PeCDD	↓		ND	0.3				
1,2,3,4,7,8-HxCDD	↓		ND	0.4				
1,2,3,6,7,8-HxCDD	UJ	B	1.2			1.26	34:16	JB_
1,2,3,7,8,9-HxCDD	↓	↓	0.81			1.06	34:36	JB_
1,2,3,4,6,7,8-HpCDD	↓	↓	2.4			1.01	37:43	JB_
1,2,3,4,6,7,8,9-OCDD	↓	↓	2.5			0.87	41:39	JB_
2,3,7,8-TCDF	R	D	EMPC		1.2			B__
1,2,3,7,8-PeCDF	J		0.78			1.47	30:07	JB_
2,3,4,7,8-PeCDF	UJ	B	1.00			1.45	30:46	JB_
1,2,3,4,7,8-HxCDF	↓	↓	1.3			1.27	33:28	JB_
1,2,3,6,7,8-HxCDF	↓	*10	EMPC		0.56			JB_
2,3,4,6,7,8-HxCDF	↓	B	0.54			1.41	34:05	JB_
1,2,3,7,8,9-HxCDF	U		ND	0.4				
1,2,3,4,6,7,8-HpCDF	UJ	B	1.4			1.04	36:36	JB_
1,2,3,4,7,8,9-HpCDF	U		ND	0.5				
1,2,3,4,6,7,8,9-OCDF	↓		ND	0.9				

Totals			Conc. (pg/g)	Number	DL	EMPC	Flags
Total TCDD			0.90	1			
Total PeCDD			2.9	2			
Total HxCDD			6.8	5			
Total HpCDD			4.0	2			
Total TCDF	J	*10	1.7	2		6.2	
Total PeCDF			5.4	4			
Total HxCDF	J	*10	3.9	4		4.5	
Total HpCDF	UJ	B	1.4	1			

AMEC VALIDATED

MIT3_PSR v1.00, LARS 6.25.001

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

LEVEL V

Printed: 18:31 10/18/2000

Del Mar Analytical

TLI Project: **52059** Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: **IJJ0178-02/PCS-47B** Analysis File: **P003695**

Client Project:	IJJ0178			ICal:	PF2N229
Sample Matrix:	SOIL	Date Received:	10/07/2000	Spike File:	SPC2NF2S
TLI ID:	271-89-2	Date Extracted:	10/12/2000	1st CCal:	P003686
		Date Analyzed:	10/18/2000	End CCal:	P003698
Sample Size:	11.700 g	Dilution Factor:	n/a	% Moisture:	13.8
Dry Weight:	10.085 g	Blank File:	U159401	% Lipid:	n/a
GC Column:	DB-225	Analyst:	JMM	% Solids:	86.2

Analytes	rev'd qual	qual Code	Conc. (pg/g)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	UJ	B	0.47			0.77	24:07	JB_

Internal Standard	Conc. (pg/g)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	160	80.6	40%-130%	0.81	24:06	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	22:55	___

AMEC VALIDATED
LEVEL V

Data Reviewer: JCA 10/18/2000

C2NF_PSR v2.03, LARS 6.25.001

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 18:44 10/18/2000

DATA ASSESSMENT FORM

Project Title:	Rocketdyne
Project Manager:	D. Hambrick
Analysis/Method:	Dioxins and Furans/EPA Method 8290
QC Level:	V[1]
SDG:	IJH0606
Matrix:	Soil
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Date Reviewed:	February 28, 2002
Reviewer:	L. Calvin
References:	National Functional Guidelines for Organic Data Review (2/94) and SW-846 Method 8290 (9/94).
Samples Reviewed:	CBC-80S

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC had appropriate relinquish and receipt signatures. The sample was received at Triangle Laboratories with a cooler temperature within the limits of 4°C ±2°C. The COC noted that the sample was received intact. The sample was extracted within 30 days of collection and analyzed within 45 days of extraction.	No qualifications were required.
4. Method Blanks	One soil method blank was extracted and analyzed with the sample in this SDG. There were no reported target compound detects in the method blank.	No qualifications were required.
5. LCS/BS	One soil LCS/LCSD pair was extracted and analyzed with the sample in this SDG. All percent recoveries were within the laboratory QC limits of 70-130%, and all RPDs were within the QC limit of 20%.	No qualifications were required.

	Findings	Qualifications
6. MS/MSDs	No MS/MSD analyses were performed in this SDG. Evaluation of method accuracy and precision were based on the LCS/LCSD results.	No qualifications were required.
7. Field QC Samples ER: None FB: None FD: None	No field QC samples were identified for the samples in this SDG.	No qualifications were required.
9. Internal Standards	All internal standard recoveries were within the method QC limits of 40-135%.	No qualifications were required.
10. Other	The sample results were reported on a dry-weight basis. Results reported with the laboratory qualifier "J," were concentrations below the lower calibration level.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Del Mar Analytical

TLI Project: **51687**
Client Sample: **IJH0606-04 B [EMC1]**
CBC-805

Method 8290 PCDD/PCDF Analysis (b)
Analysis File: **W169006**

Client Project:	IJH0606			ICal:	WF57130
Sample Matrix:	SOIL	Date Received:	08/18/2000	Spike File:	SPMIT32S
TLI ID:	268-14-3	Date Extracted:	08/18/2000	1st CCal:	W001688
		Date Analyzed:	08/22/2000	End CCal:	W001692
Sample Size:	12.000 g	Dilution Factor:	n/a	% Moisture:	5.4
Dry Weight:	11.352 g	Blank File:	W169001	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JSY	% Solids:	94.6

Analytes	rev'd qual code	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	U	ND	0.2				
1,2,3,7,8-PeCDD		ND	0.2				
1,2,3,4,7,8-HxCDD		ND	0.2				
1,2,3,6,7,8-HxCDD		ND	0.2				
1,2,3,7,8,9-HxCDD		ND	0.2				
1,2,3,4,6,7,8-HpCDD	J	2.9			0.96	38:15	J
1,2,3,4,6,7,8,9-OCDD		30.3			0.85	42:04	
2,3,7,8-TCDF	U	ND	0.1				
1,2,3,7,8-PeCDF		ND	0.1				
2,3,4,7,8-PeCDF		ND	0.1				
1,2,3,4,7,8-HxCDF		ND	0.1				
1,2,3,6,7,8-HxCDF		ND	0.1				
2,3,4,6,7,8-HxCDF		ND	0.1				
1,2,3,7,8,9-HxCDF		ND	0.1				
1,2,3,4,6,7,8-HpCDF	J	0.54			0.92	37:11	J
1,2,3,4,7,8,9-HpCDF	U	ND	0.2				
1,2,3,4,6,7,8,9-OCDF	J	0.89			0.84	42:16	J

Totals		Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	U	ND		0.2		
Total PeCDD		ND		0.2		
Total HxCDD		ND		0.2		
Total HpCDD		5.3	2			
Total TCDF	U	ND		0.1		
Total PeCDF		ND		0.1		
Total HxCDF		ND		0.1		
Total HpCDF		1.5	2			

AMEC VALIDATED
LEVEL V

mit3_PSR v1.00, LARS 6.25.00

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 01:19 08/23/2000

DATA ASSESSMENT FORM

Project Title:	Rocketdyne
Project Manager:	D. Hambrick
Analysis/Method:	Dioxins and Furans/EPA Method 8290
QC Level:	V[1]
SDG:	IJF0961
Matrix:	Soil
No. of Samples:	13
No. of Reanalyses/Dilutions:	0
Date Reviewed:	February 28, 2002
Reviewer:	L. Calvin
References:	National Functional Guidelines for Organic Data Review (2/94) and SW-846 Method 8290 (9/94).
Samples Reviewed:	PC-1, PC-3, PC-4, PC-6, PC-8, PC-9, PC-10, PC-12, PC-14B, PC-14T, PC-16B, PC-16BD, PC-16T

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC had appropriate relinquish and receipt signatures. The laboratory login sheet noted a cooler temperature within the limits of 4°C ±2°C. The samples were extracted within 30 days of collection and analyzed within 45 days of extraction.	No qualifications were required.
4. Method Blanks	One soil method blank was extracted and analyzed with the samples in this SDG. There were no reported target compound detects in the method blank.	No qualifications were required.
5. LCS/BS	One soil LCS was extracted and analyzed with the samples in this SDG. All percent recoveries were within the laboratory QC limits of 50-150%.	No qualifications were required.
6. MS/MSDs	No MS/MSD analyses were performed in this SDG. Evaluation of method accuracy was based on the LCS results.	No qualifications were required.

	Findings	Qualifications
7. Field QC Samples ER: None FB: None FD: None	No field QC samples were identified for the samples in this SDG.	No qualifications were required.
9. Internal Standards	All internal standard recoveries were within the method QC limits of 40-135%.	No qualifications were required.
10. Other	The sample results were reported on a dry-weight basis.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-1

Lot-Sample #...:	G0F300201-001	**Work Order #...:**	DFKP7102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/8/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	6.2

PARAMETER	rev qual	qual Code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD		U	ND	0.58	1.000	0.00
Total TCDD			ND	0.58		
1,2,3,7,8-PeCDD			ND	1.3	0.500	0.00
Total PeCDD			ND	1.3		
1,2,3,4,7,8-HxCDD			ND	0.83	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	0.80	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	0.73	0.100	0.00
Total HxCDD			ND	0.83		
1,2,3,4,6,7,8-HpCDD			ND	0.79	0.010	0.00
Total HpCDD			ND	0.79		
OCDD			ND	1.4	0.001	0.00
2,3,7,8-TCDF			ND	0.37	0.100	0.00
Total TCDF			ND	0.37		
1,2,3,7,8-PeCDF			ND	0.69	0.050	0.00
2,3,4,7,8-PeCDF			ND	0.69	0.500	0.00
Total PeCDF			ND	0.69		
1,2,3,4,7,8-HxCDF			ND	0.54	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	0.41	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.57	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.57	0.100	0.00
Total HxCDF			ND	0.57		
1,2,3,4,6,7,8-HpCDF			ND	0.47	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	0.51	0.010	0.00
Total HpCDF			ND	0.51		
OCDF			ND	1.4	0.001	0.00
Total TEQ Concentration*						**0.00**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	82	40 - 135
13C-1,2,3,7,8-PeCDD	66	40 - 135
13C-1,2,3,6,7,8-HxCDD	99	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	93	40 - 135
13C-OCDD	77	40 - 135
13C-2,3,7,8-TCDF	90	40 - 135
13C-1,2,3,7,8-PeCDF	68	40 - 135
13C-1,2,3,4,7,8-HxCDF	76	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	94	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-3

Lot-Sample #...:	G0F300201-003	**Work Order #...:**	DFKPT102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	6.9

PARAMETER	rev qual	qual code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	0.73	1.000	0.00
Total TCDD			ND	0.73		
1,2,3,7,8-PeCDD			ND	2.0	0.500	0.00
Total PeCDD			ND	2.0		
1,2,3,4,7,8-HxCDD			ND	1.4	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	1.4	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	1.2	0.100	0.00
Total HxCDD			ND	1.4		
1,2,3,4,6,7,8-HpCDD			ND	1.0	0.010	0.00
Total HpCDD			ND	1.0		
OCDD			ND	2.5	0.001	0.00
2,3,7,8-TCDF			ND	0.52	0.100	0.00
Total TCDF			ND	0.52		
1,2,3,7,8-PeCDF			ND	1.1	0.050	0.00
2,3,4,7,8-PeCDF			ND	1.1	0.500	0.00
Total PeCDF			ND	1.1		
1,2,3,4,7,8-HxCDF			ND	0.76	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	0.56	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.80	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.80	0.100	0.00
Total HxCDF			ND	0.80		
1,2,3,4,6,7,8-HpCDF			ND	0.72	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	0.80	0.010	0.00
Total HpCDF			ND	0.80		
OCDF			ND	2.2	0.001	0.00
Total TEQ Concentration *						**0.00**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	86	40 - 135
13C-1,2,3,7,8-PeCDD	69	40 - 135
13C-1,2,3,6,7,8-HxCDD	94	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	83	40 - 135
13C-OCDD	68	40 - 135
13C-2,3,7,8-TCDF	91	40 - 135
13C-1,2,3,7,8-PeCDF	68	40 - 135
13C-1,2,3,4,7,8-HxCDF	75	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	83	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-4

Lot-Sample #...:	G0F300201-004	**Work Order #...:**	DFKPV102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	14

PARAMETER	rev qual	RESULT	qual Code	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U	ND		0.96	1.000	0.00
Total TCDD		ND		0.96		
1,2,3,7,8-PeCDD		ND		2.5	0.500	0.00
Total PeCDD		ND		2.5		
1,2,3,4,7,8-HxCDD		ND		1.4	0.100	0.00
1,2,3,6,7,8-HxCDD		ND		1.4	0.100	0.00
1,2,3,7,8,9-HxCDD		ND		1.2	0.100	0.00
Total HxCDD		ND		1.4		
1,2,3,4,6,7,8-HpCDD		ND		1.6	0.010	0.00
Total HpCDD		ND		1.6		
OCDD		ND		3.0	0.001	0.00
2,3,7,8-TCDF		ND		0.62	0.100	0.00
Total TCDF		ND		0.62		
1,2,3,7,8-PeCDF		ND		1.3	0.050	0.00
2,3,4,7,8-PeCDF		ND		1.3	0.500	0.00
Total PeCDF		ND		1.3		
1,2,3,4,7,8-HxCDF		ND		0.97	0.100	0.00
1,2,3,6,7,8-HxCDF		ND		0.71	0.100	0.00
2,3,4,6,7,8-HxCDF		ND		1.0	0.100	0.00
1,2,3,7,8,9-HxCDF		ND		1.0	0.100	0.00
Total HxCDF		ND		1.0		
1,2,3,4,6,7,8-HpCDF		ND		1.1	0.010	0.00
1,2,3,4,7,8,9-HpCDF		ND		1.2	0.010	0.00
Total HpCDF		ND		1.2		
OCDF		ND		3.0	0.001	0.00
Total TEQ Concentration *						**0.00**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	81	40 - 135
13C-1,2,3,7,8-PeCDD	62	40 - 135
13C-1,2,3,6,7,8-HxCDD	95	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	80	40 - 135
13C-OCDD	65	40 - 135
13C-2,3,7,8-TCDF	86	40 - 135
13C-1,2,3,7,8-PeCDF	64	40 - 135
13C-1,2,3,4,7,8-HxCDF	75	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	81	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results.

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-6

Lot-Sample #...:	G0F300201-005	**Work Order #...:**	DFKPW102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	14

PARAMETER	very qual	qual code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	0.70	1.000	0.00
Total TCDD			ND	0.70		
1,2,3,7,8-PeCDD			ND	2.0	0.500	0.00
Total PeCDD			ND	2.0		
1,2,3,4,7,8-HxCDD			ND	1.2	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	1.2	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	1.1	0.100	0.00
Total HxCDD			ND	1.2		
1,2,3,4,6,7,8-HpCDD			ND	1.3	0.010	0.00
Total HpCDD			ND	1.3		
OCDD			ND	2.1	0.001	0.00
2,3,7,8-TCDF			ND	0.48	0.100	0.00
Total TCDF			ND	0.48		
1,2,3,7,8-PeCDF			ND	1.0	0.050	0.00
2,3,4,7,8-PeCDF			ND	1.0	0.500	0.00
Total PeCDF			ND	1.0		
1,2,3,4,7,8-HxCDF			ND	0.83	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	0.61	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.85	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.85	0.100	0.00
Total HxCDF			ND	0.85		
1,2,3,4,6,7,8-HpCDF			ND	0.85	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	0.93	0.010	0.00
Total HpCDF			ND	0.93		
OCDF			ND	2.4	0.001	0.00
Total TEQ Concentration		*				**0.00**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	83	40 - 135
13C-1,2,3,7,8-PeCDD	63	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	72	40 - 135
13C-OCDD	54	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	65	40 - 135
13C-1,2,3,4,7,8-HxCDF	66	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	66	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

*Not validated

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-8

Lot-Sample #...:	G0F300201-006	**Work Order #...:**	DFKPX102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	3.2

PARAMETER	ver qual code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U	ND	0.59	1.000	0.00
Total TCDD		ND	0.59		
1,2,3,7,8-PeCDD		ND	1.6	0.500	0.00
Total PeCDD		ND	1.6		
1,2,3,4,7,8-HxCDD		ND	1.0	0.100	0.00
1,2,3,6,7,8-HxCDD		ND	0.99	0.100	0.00
1,2,3,7,8,9-HxCDD		ND	0.90	0.100	0.00
Total HxCDD		ND	1.0		
1,2,3,4,6,7,8-HpCDD		ND	1.5	0.010	0.00
Total HpCDD		ND	1.7		
OCDD		**12**		**0.001**	**0.01**
2,3,7,8-TCDF	U	ND	0.44	0.100	0.00
Total TCDF		ND	0.44		
1,2,3,7,8-PeCDF		ND	0.93	0.050	0.00
2,3,4,7,8-PeCDF		ND	0.94	0.500	0.00
Total PeCDF		ND	0.94		
1,2,3,4,7,8-HxCDF		ND	0.61	0.100	0.00
1,2,3,6,7,8-HxCDF		ND	0.44	0.100	0.00
2,3,4,6,7,8-HxCDF		ND	0.63	0.100	0.00
1,2,3,7,8,9-HxCDF		ND	0.63	0.100	0.00
Total HxCDF		ND	0.63		
1,2,3,4,6,7,8-HpCDF		ND	0.52	0.010	0.00
1,2,3,4,7,8,9-HpCDF		ND	0.56	0.010	0.00
Total HpCDF		ND	0.56		
OCDF		ND	1.4	0.001	0.00
Total TEQ Concentration*					**0.01**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	80	40 - 135
13C-1,2,3,7,8-PeCDD	61	40 - 135
13C-1,2,3,6,7,8-HxCDD	90	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	83	40 - 135
13C-OCDD	65	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	67	40 - 135
13C-1,2,3,4,7,8-HxCDF	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	81	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-9

Lot-Sample #...:	G0F300201-007	**Work Order #...:**	DFKQ0102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	19

PARAMETER	rev Qual	qual code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	0.85	1.000	0.00
Total TCDD			ND	0.85		
1,2,3,7,8-PeCDD			ND	1.8	0.500	0.00
Total PeCDD			ND	1.8		
1,2,3,4,7,8-HxCDD			ND	1.2	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	1.2	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	1.1	0.100	0.00
Total HxCDD			ND	1.2		
1,2,3,4,6,7,8-HpCDD			ND	1.0	0.010	0.00
Total HpCDD			ND	1.0		
OCDD			ND	2.5	0.001	0.00
2,3,7,8-TCDF			ND	0.58	0.100	0.00
Total TCDF			ND	0.58		
1,2,3,7,8-PeCDF			ND	1.0	0.050	0.00
2,3,4,7,8-PeCDF			ND	1.0	0.500	0.00
Total PeCDF			ND	1.1		
1,2,3,4,7,8-HxCDF			ND	0.79	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	0.58	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.82	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.82	0.100	0.00
Total HxCDF			ND	0.82		
1,2,3,4,6,7,8-HpCDF			ND	0.53	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	0.58	0.010	0.00
Total HpCDF			ND	0.58		
OCDF			ND	1.5	0.001	0.00
Total TEQ Concentration*						**0.00**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	84	40 - 135
13C-1,2,3,7,8-PeCDD	69	40 - 135
13C-1,2,3,6,7,8-HxCDD	99	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	96	40 - 135
13C-OCDD	81	40 - 135
13C-2,3,7,8-TCDF	92	40 - 135
13C-1,2,3,7,8-PeCDF	72	40 - 135
13C-1,2,3,4,7,8-HxCDF	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	96	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-10

Lot-Sample #...:	G0F300201-008	**Work Order #...:**	DFKQ1102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	22

PARAMETER	rev qual	qual code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	0.86	1.000	0.00
Total TCDD			ND	0.86		
1,2,3,7,8-PeCDD			ND	1.8	0.500	0.00
Total PeCDD			ND	1.8		
1,2,3,4,7,8-HxCDD			ND	1.3	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	1.2	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	1.1	0.100	0.00
Total HxCDD			ND	1.3		
1,2,3,4,6,7,8-HpCDD			ND	1.4	0.010	0.00
Total HpCDD			ND	1.4		
OCDD			ND	2.2	0.001	0.00
2,3,7,8-TCDF			ND	0.60	0.100	0.00
Total TCDF			ND	0.60		
1,2,3,7,8-PeCDF			ND	1.1	0.050	0.00
2,3,4,7,8-PeCDF			ND	1.1	0.500	0.00
Total PeCDF			ND	1.1		
1,2,3,4,7,8-HxCDF			ND	0.77	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	0.56	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.79	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.79	0.100	0.00
Total HxCDF			ND	0.79		
1,2,3,4,6,7,8-HpCDF			ND	0.69	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	0.77	0.010	0.00
Total HpCDF			ND	0.77		
OCDF			ND	2.0	0.001	0.00
Total TEQ Concentration*						**0.00**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	74	40 - 135
13C-1,2,3,7,8-PeCDD	63	40 - 135
13C-1,2,3,6,7,8-HxCDD	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	82	40 - 135
13C-OCDD	69	40 - 135
13C-2,3,7,8-TCDF	81	40 - 135
13C-1,2,3,7,8-PeCDF	62	40 - 135
13C-1,2,3,4,7,8-HxCDF	71	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	83	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not valid ~~valid~~ AMC validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-12

Lot-Sample #...:	G0F300201-009	**Work Order #...:**	DFKQ2102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	4.2

PARAMETER	rev qual	qual Code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	0.21	1.000	0.00
Total TCDD			ND	0.21		
1,2,3,7,8-PeCDD			ND	0.48	0.500	0.00
Total PeCDD			ND	1.1		
1,2,3,4,7,8-HxCDD			ND	0.28	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	0.27	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	0.25	0.100	0.00
Total HxCDD			ND	0.28		
1,2,3,4,6,7,8-HpCDD			ND	0.34	0.010	0.00
Total HpCDD			ND	0.53		
OCDD			ND	2.6	0.001	0.00
2,3,7,8-TCDF			ND	0.16	0.100	0.00
Total TCDF			ND	0.16		
1,2,3,7,8-PeCDF			ND	0.24	0.050	0.00
2,3,4,7,8-PeCDF			ND	0.24	0.500	0.00
Total PeCDF			ND	0.24		
1,2,3,4,7,8-HxCDF			ND	0.18	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	0.13	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.18	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.18	0.100	0.00
Total HxCDF			ND	0.18		
1,2,3,4,6,7,8-HpCDF			ND	0.16	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	0.18	0.010	0.00
Total HpCDF			ND	0.24		
OCDF			ND	0.34	0.001	0.00
Total TEQ Concentration *						**0.00**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	80	40 - 135
13C-1,2,3,7,8-PeCDD	69	40 - 135
13C-1,2,3,6,7,8-HxCDD	86	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	85	40 - 135
13C-OCDD	70	40 - 135
13C-2,3,7,8-TCDF	85	40 - 135
13C-1,2,3,7,8-PeCDF	68	40 - 135
13C-1,2,3,4,7,8-HxCDF	80	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	84	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-14B

Lot-Sample #...:	G0F300201-010	**Work Order #...:**	DFKQ7102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	23

PARAMETER	rev qual	qual code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	0.29	1.000	0.00
Total TCDD			ND	0.29		
1,2,3,7,8-PeCDD			ND	0.52	0.500	0.00
Total PeCDD			ND	1.4		
1,2,3,4,7,8-HxCDD			ND	0.40	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	0.38	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	0.35	0.100	0.00
Total HxCDD			ND	0.65		
1,2,3,4,6,7,8-HpCDD			ND	2.2	0.010	0.00
Total HpCDD			**3.4**			
OCDD			**16**		**0.001**	**0.02**
2,3,7,8-TCDF	U		ND	0.22	0.100	0.00
Total TCDF			ND	0.22		
1,2,3,7,8-PeCDF			ND	0.30	0.050	0.00
2,3,4,7,8-PeCDF			ND	0.31	0.500	0.00
Total PeCDF			ND	0.35		
1,2,3,4,7,8-HxCDF			ND	0.29	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	0.21	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.30	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.30	0.100	0.00
Total HxCDF			ND	0.30		
1,2,3,4,6,7,8-HpCDF			ND	0.33	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	0.26	0.010	0.00
Total HpCDF			ND	0.59		
OCDF			ND	0.69	0.001	0.00
Total TEQ Concentration*						**0.02**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	80	40 - 135
13C-1,2,3,7,8-PeCDD	69	40 - 135
13C-1,2,3,6,7,8-HxCDD	88	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	87	40 - 135
13C-OCDD	75	40 - 135
13C-2,3,7,8-TCDF	86	40 - 135
13C-1,2,3,7,8-PeCDF	70	40 - 135
13C-1,2,3,4,7,8-HxCDF	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	88	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not validated.

AMEC VALIDATED
LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-14T

Lot-Sample #...:	G0F300201-013	**Work Order #...:**	DFKQC102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	20

PARAMETER	rev qual code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U	ND	0.69	1.000	0.00
Total TCDD		ND	0.69		
1,2,3,7,8-PeCDD		ND	2.0	0.500	0.00
Total PeCDD		ND	2.0		
1,2,3,4,7,8-HxCDD		ND	1.3	0.100	0.00
1,2,3,6,7,8-HxCDD		ND	1.3	0.100	0.00
1,2,3,7,8,9-HxCDD		ND	1.2	0.100	0.00
Total HxCDD		ND	1.3		
1,2,3,4,6,7,8-HpCDD		ND	1.8	0.010	0.00
Total HpCDD		ND	1.8		
OCDD		ND	2.8	0.001	0.00
2,3,7,8-TCDF		ND	0.56	0.100	0.00
Total TCDF		ND	0.56		
1,2,3,7,8-PeCDF		ND	1.0	0.050	0.00
2,3,4,7,8-PeCDF		ND	1.0	0.500	0.00
Total PeCDF		ND	1.0		
1,2,3,4,7,8-HxCDF		ND	0.97	0.100	0.00
1,2,3,6,7,8-HxCDF		ND	0.71	0.100	0.00
2,3,4,6,7,8-HxCDF		ND	1.0	0.100	0.00
1,2,3,7,8,9-HxCDF		ND	1.0	0.100	0.00
Total HxCDF		ND	1.0		
1,2,3,4,6,7,8-HpCDF		ND	0.94	0.010	0.00
1,2,3,4,7,8,9-HpCDF		ND	1.0	0.010	0.00
Total HpCDF		ND	1.0		
OCDF		ND	2.5	0.001	0.00
Total TEQ Concentration*					**0.00**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	75	40 - 135
13C-1,2,3,7,8-PeCDD	59	40 - 135
13C-1,2,3,6,7,8-HxCDD	71	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	59	40 - 135
13C-OCDD	45	40 - 135
13C-2,3,7,8-TCDF	78	40 - 135
13C-1,2,3,7,8-PeCDF	58	40 - 135
13C-1,2,3,4,7,8-HxCDF	55	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	56	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-16B

Lot-Sample #...:	G0F300201-012	**Work Order #...:**	DFKQA102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	23

PARAMETER	rev qual	qual Code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	0.83	1.000	0.00
Total TCDD			ND	0.83		
1,2,3,7,8-PeCDD			ND	1.6	0.500	0.00
Total PeCDD			ND	1.6		
1,2,3,4,7,8-HxCDD			ND	1.1	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	1.0	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	0.93	0.100	0.00
Total HxCDD			ND	1.1		
1,2,3,4,6,7,8-HpCDD			ND	2.0	0.010	0.00
Total HpCDD			ND	2.6		
OCDD			**13**		**0.001**	**0.01**
2,3,7,8-TCDF	U		ND	0.57	0.100	0.00
Total TCDF			ND	0.57		
1,2,3,7,8-PeCDF			ND	0.96	0.050	0.00
2,3,4,7,8-PeCDF			ND	0.97	0.500	0.00
Total PeCDF			ND	0.97		
1,2,3,4,7,8-HxCDF			ND	0.63	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	0.47	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.66	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.66	0.100	0.00
Total HxCDF			ND	0.66		
1,2,3,4,6,7,8-HpCDF			ND	0.57	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	0.62	0.010	0.00
Total HpCDF			ND	0.62		
OCDF			ND	1.7	0.001	0.00
Total TEQ Concentration*						**0.01**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	51	40 - 135
13C-1,2,3,7,8-PeCDD	44	40 - 135
13C-1,2,3,6,7,8-HxCDD	63	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	65	40 - 135
13C-OCDD	55	40 - 135
13C-2,3,7,8-TCDF	55	40 - 135
13C-1,2,3,7,8-PeCDF	44	40 - 135
13C-1,2,3,4,7,8-HxCDF	53	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	66	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-16BD

Lot-Sample #...:	G0F300201-014	**Work Order #...:**	DFKQD102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	19

PARAMETER	rev qual	qual Code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	1.1	1.000	0.00
Total TCDD			ND	1.1		
1,2,3,7,8-PeCDD			ND	3.2	0.500	0.00
Total PeCDD			ND	3.2		
1,2,3,4,7,8-HxCDD			ND	2.4	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	2.3	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	2.1	0.100	0.00
Total HxCDD			ND	3.5		
1,2,3,4,6,7,8-HpCDD			**11**		**0.010**	**0.11**
Total HpCDD			**29**			
OCDD			**71**		**0.001**	**0.07**
2,3,7,8-TCDF	U		ND	1.1	0.100	0.00
Total TCDF			ND	1.1		
1,2,3,7,8-PeCDF			ND	1.8	0.050	0.00
2,3,4,7,8-PeCDF			ND	1.8	0.500	0.00
Total PeCDF			ND	1.8		
1,2,3,4,7,8-HxCDF			ND	1.5	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	1.1	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	1.6	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	1.6	0.100	0.00
Total HxCDF			ND	1.6		
1,2,3,4,6,7,8-HpCDF			ND	1.6	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	1.5	0.010	0.00
Total HpCDF			ND	2.8		
OCDF			ND	2.8	0.001	0.00
Total TEQ Concentration *						**0.18**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	59	40 - 135
13C-1,2,3,7,8-PeCDD	48	40 - 135
13C-1,2,3,6,7,8-HxCDD	70	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	62	40 - 135
13C-OCDD	57	40 - 135
13C-2,3,7,8-TCDF	61	40 - 135
13C-1,2,3,7,8-PeCDF	48	40 - 135
13C-1,2,3,4,7,8-HxCDF	58	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	62	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: PC-16T

Lot-Sample #...:	G0F300201-011	**Work Order #...:**	DFKQ9102	**Matrix....:**	SOLID
Date Sampled...:	6/28/00	**Date Received..:**	6/30/00	**Instrument:**	6D5
Prep Date.....:	7/5/00	**Analysis Date..:**	7/9/00	**Units.....:**	pg/g
Prep Batch #...:	0187203	**Dilution Factor:**	1	**% Moisture:**	26

PARAMETER	rev qual	qual code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	0.55	1.000	0.00
Total TCDD			ND	0.55		
1,2,3,7,8-PeCDD			ND	1.3	0.500	0.00
Total PeCDD			ND	1.6		
1,2,3,4,7,8-HxCDD			ND	1.1	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	1.1	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	0.98	0.100	0.00
Total HxCDD			ND	1.1		
1,2,3,4,6,7,8-HpCDD			ND	0.88	0.010	0.00
Total HpCDD			ND	1.3		
OCDD			ND	4.0	0.001	0.00
2,3,7,8-TCDF			ND	0.44	0.100	0.00
Total TCDF			ND	0.54		
1,2,3,7,8-PeCDF			ND	1.0	0.050	0.00
2,3,4,7,8-PeCDF			ND	1.1	0.500	0.00
Total PeCDF			ND	2.3		
1,2,3,4,7,8-HxCDF			ND	1.8	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	3.1	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.79	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.92	0.100	0.00
Total HxCDF			ND	3.1		
1,2,3,4,6,7,8-HpCDF			ND	2.1	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	2.5	0.010	0.00
Total HpCDF			ND	2.5		
OCDF			ND	1.2	0.001	0.00
Total TEQ Concentration*						**0.00**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	82	40 - 135
13C-1,2,3,7,8-PeCDD	66	40 - 135
13C-1,2,3,6,7,8-HxCDD	92	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	90	40 - 135
13C-OCDD	75	40 - 135
13C-2,3,7,8-TCDF	86	40 - 135
13C-1,2,3,7,8-PeCDF	68	40 - 135
13C-1,2,3,4,7,8-HxCDF	76	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	95	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

*Not validated.

AMEC VALIDATED

LEVEL V

DATA ASSESSMENT FORM

Project Title:	Rocketdyne
Project Manager:	D. Hambrick
Analysis/Method:	Dioxins and Furans/EPA Method 8290
QC Level:	V[1]
SDG:	IJI0547
Matrix:	Soil
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Date Reviewed:	March 4, 2002
Reviewer:	L. Calvin
References:	National Functional Guidelines for Organic Data Review (2/94) and SW-846 Method 8290 (9/94).
Samples Reviewed:	PCS-29, PCS-31, CAC-100BE

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COCs from the field to Del Mar Laboratory and from Del Mar to Triangle Laboratories had appropriate relinquish and receipt signatures, with recorded cooler temperatures within the limits of 4°C ±2°C. The samples were extracted within 30 days of collection and analyzed within 45 days of extraction.	No qualifications were required.
4. Method Blanks	One soil method blank was extracted and analyzed with the samples in this SDG. There were no reported target compound detects in the method blank other than a reported detect for total HxCDD.	As the sample concentrations for total HxCDD included isomers other than individual congener target compounds, total results were not qualified as method blank contamination.
5. LCS/BS	One soil LCS/LCSD pair was extracted and analyzed with the samples in this SDG. All percent recoveries were within the laboratory QC limits of 70-130%, and all RPDs were less than the QC limit of 20%.	No qualifications were required.

	Findings	Qualifications
6. MS/MSDs	No MS/MSD analyses were performed in this SDG. Evaluation of method accuracy and precision was based on the LCS/LCSD results.	No qualifications were required.
7. Field QC Samples ER: None FB: None FD: None	No field QC samples were identified for the samples in this SDG.	No qualifications were required.
9. Internal Standards	All internal standard recoveries were within the method QC limits of 40-135%.	No qualifications were required.
10. Other	Any individual congener results reported as EMPCs were considered nondetects, as were any totals reported only as EMPCs. Some total results which included individual congener results were also reported as EMPCs. Confirmation analysis on a DB-225 column was performed for the 2,3,7,8-TCDF result in sample PCS-29. The sample results were reported on a dry-weight basis. Results reported with the laboratory qualifier "J," were concentrations below the lower calibration level.	All target compound and total EMPCs were qualified as estimated nondetects, "UJ." Any totals also including individual congener concentrations were qualified as estimated, "J." The result for 2,3,7,8-TCDF on the DB-5 column was rejected, "R," in favor of the confirmation result.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Del Mar Analytical

TLI Project: **51895r1** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **IJI0535-01/PCS-29** Analysis File: **U152302**

Client Project:	**Boeing**			ICal:	**UF57140**
Sample Matrix:	**SOIL**	Date Received:	**09/16/2000**	Spike File:	**SPMIT32S**
TLI ID:	**270-24-1**	Date Extracted:	**09/26/2000**	1st CCal:	**U001522**
		Date Analyzed:	**09/28/2000**	End CCal:	**U152312**
Sample Size:	**10.600 g**	Dilution Factor:	**n/a**	% Moisture:	**5.6**
Dry Weight:	**10.006 g**	Blank File:	**U152301**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**DFS**	% Solids:	**94.4**

Analytes	Val	Qual Code	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	U		ND	0.3				
1,2,3,7,8-PeCDD	↓		ND	0.3				
1,2,3,4,7,8-HxCDD	J		0.90			1.32	33:49	J
1,2,3,6,7,8-HxCDD	↓		1.5			1.09	33:52	J
1,2,3,7,8,9-HxCDD	↓		2.2			1.41	34:11	J
1,2,3,4,6,7,8-HpCDD			16.1			1.04	37:05	
1,2,3,4,6,7,8,9-OCDD			116			0.86	40:34	
2,3,7,8-TCDF	R	D	1.2			0.84	25:39	
1,2,3,7,8-PeCDF	U		ND	0.3				
2,3,4,7,8-PeCDF	↓		ND	0.3				
1,2,3,4,7,8-HxCDF	J		0.74			1.29	33:07	J
1,2,3,6,7,8-HxCDF	UJ	*10	EMPC		0.26			J
2,3,4,6,7,8-HxCDF	J		0.34			1.14	33:42	J
1,2,3,7,8,9-HxCDF	↓		0.30			1.06	34:28	J
1,2,3,4,6,7,8-HpCDF	↓		2.3			1.05	36:05	J
1,2,3,4,7,8,9-HpCDF	U		ND	0.3				
1,2,3,4,6,7,8,9-OCDF	J		3.3			0.78	40:46	J

Totals	Val	Qual Code	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	U		ND		0.3		
Total PeCDD	UJ	*10	EMPC			0.47	
Total HxCDD			16.3	7			
Total HpCDD			42.3	2			
Total TCDF			3.0	3			
Total PeCDF	J	*10	1.6	1		2.1	
Total HxCDF	↓	↓	4.8	6		5.1	
Total HpCDF			6.1	2			

AMEC VALIDATED
LEVEL V

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 06:13 09/30/2000

Del Mar Analytical

TLI Project: **51895r1** Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: **IJI0535-01/PCS-29** Analysis File: **P003369**

Client Project:	Boeing				
Sample Matrix:	SOIL	Date Received:	09/16/2000	Spike File:	SPC2NF2S
TLI ID:	270-24-1	Date Extracted:	09/26/2000	ICal:	PF2N229
		Date Analyzed:	09/29/2000	ConCal:	P003367
Sample Size:	10.600 g	Dilution Factor:	n/a	% Moisture:	5.6
Dry Weight:	10.006 g	Blank File:	U152301	% Lipid:	n/a
GC Column:	DB-225	Analyst:	JMM	% Solids:	94.4

Analytes	reviewer qual code	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	J	0.72			0.65	23:01	J__

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	144	72.1	40%-130%	0.78	23:01	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	21:50	___

AMEC VALIDATED
LEVEL V

Data Reviewer: Rose V. West 09/29/2000

C2NF_PSR v2.03, LARS 6.25.00

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 20:20 09/29/2000

Del Mar Analytical

TLI Project: **51895r1** — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **IJI0535-03/PCS-31** — Analysis File: **U152304**

Client Project:	**Boeing**			ICal:	**UF57140**
Sample Matrix:	**SOIL**	Date Received:	**09/16/2000**	Spike File:	**SPMIT32S**
TLI ID:	**270-24-3**	Date Extracted:	**09/26/2000**	1st CCal:	**U001522**
		Date Analyzed:	**09/28/2000**	End CCal:	**U152312**
Sample Size:	**10.600 g**	Dilution Factor:	**n/a**	% Moisture:	**4.4**
Dry Weight:	**10.134 g**	Blank File:	**U152301**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**DFS**	% Solids:	**95.6**

Analytes	Val Qual	Qual Code	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	U		ND	0.1				___
1,2,3,7,8-PeCDD	↓		ND	0.1				___
1,2,3,4,7,8-HxCDD	↓		ND	0.2				___
1,2,3,6,7,8-HxCDD	UJ	*10	EMPC		0.62			J__
1,2,3,7,8,9-HxCDD	J		0.42			1.16	34:13	J__
1,2,3,4,6,7,8-HpCDD	↓		1.6			1.03	37:04	J__
1,2,3,4,6,7,8,9-OCDD	↓		5.9			0.89	40:35	J__
2,3,7,8-TCDF	J		0.28			0.65	25:39	J__
1,2,3,7,8-PeCDF	U		ND	0.1				___
2,3,4,7,8-PeCDF	↓		ND	0.1				___
1,2,3,4,7,8-HxCDF	J		0.25			1.37	33:09	J__
1,2,3,6,7,8-HxCDF	↓		0.13			1.09	33:15	J__
2,3,4,6,7,8-HxCDF	U		ND	0.1				___
1,2,3,7,8,9-HxCDF	J		0.29			1.23	34:27	J__
1,2,3,4,6,7,8-HpCDF	↓		0.66			1.18	36:05	J__
1,2,3,4,7,8,9-HpCDF	U		ND	0.2				___
1,2,3,4,6,7,8,9-OCDF	J		0.68			0.87	40:48	J__

Totals	Val Qual	Qual Code	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD			0.19	1			___
Total PeCDD	U		ND		0.1		___
Total HxCDD	J	*10	0.77	2		3.8	___
Total HpCDD			3.5	2			___
Total TCDF	J	*10	0.28	1		0.75	___
Total PeCDF			0.33	1			___
Total HxCDF			1.5	5			___
Total HpCDF			1.7	2			___

AMEC VALIDATED
LEVEL V

mi3_PSR v1.00, LARS 6.25.00

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 06:13 09/30/2000

Del Mar Analytical

TLI Project: **51895r1** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **IJI0535-06/CAC-100BE** Analysis File: **U152307**

Client Project:	**Boeing**			ICal:	**UF57140**
Sample Matrix:	**SOIL**	Date Received:	**09/16/2000**	Spike File:	**SPMIT32S**
TLI ID:	**270-24-6**	Date Extracted:	**09/26/2000**	1st CCal:	**U001522**
		Date Analyzed:	**09/29/2000**	End CCal:	**U152312**
Sample Size:	**12.100 g**	Dilution Factor:	**n/a**	% Moisture:	**14.5**
Dry Weight:	**10.346 g**	Blank File:	**U152301**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**DFS**	% Solids:	**85.5**

Analytes	qual	qual	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	U		ND	0.2				
1,2,3,7,8-PeCDD	↓		ND	0.2				
1,2,3,4,7,8-HxCDD	↓		ND	0.2				
1,2,3,6,7,8-HxCDD	J		0.50			1.11	33:53	J
1,2,3,7,8,9-HxCDD			0.48			1.07	34:12	J
1,2,3,4,6,7,8-HpCDD			11.4			1.03	37:04	
1,2,3,4,6,7,8,9-OCDD			210			0.87	40:34	
2,3,7,8-TCDF	UJ	*10	EMPC		0.39			J
1,2,3,7,8-PeCDF	U		ND	0.2				
2,3,4,7,8-PeCDF	↓		ND	0.2				
1,2,3,4,7,8-HxCDF	J		0.41			1.34	33:07	J
1,2,3,6,7,8-HxCDF	↓		0.20			1.24	33:13	J
2,3,4,6,7,8-HxCDF	U		ND	0.2				
1,2,3,7,8,9-HxCDF	J		0.24			1.14	34:27	J
1,2,3,4,6,7,8-HpCDF	↓		1.0			1.10	36:04	J
1,2,3,4,7,8,9-HpCDF	U		ND	0.3				
1,2,3,4,6,7,8,9-OCDF	UJ	*10	EMPC		0.83			J

Totals			Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	U		ND		0.2		
Total PeCDD			0.90	2			
Total HxCDD	J	*10	1.7	3		3.0	
Total HpCDD			22.3	2			
Total TCDF	UJ	*10	EMPC			1.0	
Total PeCDF			0.54	1			
Total HxCDF			1.6	5			
Total HpCDF			1.8	2			

AMEC VALIDATED
LEVEL V

Rev 1 MC 04.24.02

mit3_PSR v1.00, LARS 6.25.00

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 05:57 09/30/2000

DATA ASSESSMENT FORM

Project Title:	Rocketdyne
Project Manager:	D. Hambrick
Analysis/Method:	Dioxins and Furans/EPA Method 8290
QC Level:	V[1]
SDG:	IJF0277
Matrix:	Soil
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Date Reviewed:	February 28, 2002
Reviewer:	L. Calvin
References:	National Functional Guidelines for Organic Data Review (2/94) and SW-846 Method 8290 (9/94).
Samples Reviewed:	CAC-31SW, CAC-32SW

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC from the field to Del Mar Laboratory had appropriate relinquish and receipt signatures, with a recorded cooler temperature within the limits of 4°C ±2°C. The samples were received at Quanterra Laboratory without a COC. Quanterra generated a COC upon receipt of the samples. The COC noted that the samples were received intact. The laboratory login sheet noted that the samples were received with a cooler temperature of 15°C. The samples were extracted within 30 days of collection and analyzed within 45 days of extraction.	Due to the nonvolatile nature of the Method 8290 analysis, no qualifications were required for the elevated cooler temperature.
4. Method Blanks	One soil method blank was extracted and analyzed with the samples in this SDG. There were no reported target compound detects in the method blank.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS	One soil LCS was extracted and analyzed with the samples in this SDG. All percent recoveries were within the laboratory QC limits of 50-150%.	No qualifications were required.
6. MS/MSDs	No MS/MSD analyses were performed in this SDG. Evaluation of method accuracy was based on the LCS results.	No qualifications were required.
7. Field QC Samples ER: None FB: None FD: None	No field QC samples were identified for the samples in this SDG.	No qualifications were required.
9. Internal Standards	All internal standard recoveries were within the method QC limits of 40-135%.	No qualifications were required.
10. Other	The result for 2,3,7,8-TCDF in sample CAC-32SW was reported from a confirmation analyses performed on a DB-225 column. The sample results were reported on a dry-weight basis.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: CAC-31SW

Lot-Sample #...:	G0F100161-001	**Work Order #...:**	DEHKK102	**Matrix....:**	SOLID
Date Sampled...:	6/7/00	**Date Received..:**	6/9/00	**Instrument:**	8D5
Prep Date.....:	6/26/00	**Analysis Date..:**	7/6/00	**Units.....:**	pg/g
Prep Batch #...:	0178326	**Dilution Factor:**	1	**% Moisture:**	3.8

PARAMETER	rev qual	qual code	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND	0.085	1.000	0.00
Total TCDD			ND	0.38		
1,2,3,7,8-PeCDD			ND	0.21	0.500	0.00
Total PeCDD			ND	0.21		
1,2,3,4,7,8-HxCDD			ND	0.12	0.100	0.00
1,2,3,6,7,8-HxCDD			ND	0.40	0.100	0.00
1,2,3,7,8,9-HxCDD			ND	0.61	0.100	0.00
Total HxCDD			ND	0.61		
1,2,3,4,6,7,8-HpCDD			**5.6**		**0.010**	**0.06**
Total HpCDD			**12**			
OCDD			**51**		**0.001**	**0.05**
2,3,7,8-TCDF	U		ND	0.22	0.100	0.00
Total TCDF			ND	0.38		
1,2,3,7,8-PeCDF			ND	0.16	0.050	0.00
2,3,4,7,8-PeCDF			ND	0.15	0.500	0.00
Total PeCDF			ND	0.43		
1,2,3,4,7,8-HxCDF			ND	0.10	0.100	0.00
1,2,3,6,7,8-HxCDF			ND	0.060	0.100	0.00
2,3,4,6,7,8-HxCDF			ND	0.069	0.100	0.00
1,2,3,7,8,9-HxCDF			ND	0.75	0.100	0.00
Total HxCDF			ND	0.75		
1,2,3,4,6,7,8-HpCDF			ND	0.50	0.010	0.00
1,2,3,4,7,8,9-HpCDF			ND	0.24	0.010	0.00
Total HpCDF			ND	0.54		
OCDF			ND	0.40	0.001	0.00
Total TEQ Concentration*						**0.11**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	80	40 - 135
13C-1,2,3,7,8-PeCDD	70	40 - 135
13C-1,2,3,6,7,8-HxCDD	79	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	88	40 - 135
13C-OCDD	84	40 - 135
13C-2,3,7,8-TCDF	83	40 - 135
13C-1,2,3,7,8-PeCDF	73	40 - 135
13C-1,2,3,4,7,8-HxCDF	88	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	86	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results.

* Not validated.

AMEC VALIDATED

LEVEL V

IT CORPORATION

Dioxins/Furans, HRGC/HRMS (8290)

Client Sample ID: CAC-32SW

Lot-Sample #...:	G0F100161-002	Work Order #...:	DEHKL102	Matrix....:	SOLID
Date Sampled...:	6/7/00	Date Received..:	6/9/00	Instrument:	8D5
Prep Date.....:	6/26/00	Analysis Date..:	7/6/00	Units.....:	pg/g
Prep Batch #...:	0178326	Dilution Factor:	1	% Moisture:	20

PARAMETER	rev qual	qual Code	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ Conc.
2,3,7,8-TCDD	U		ND		0.078	1.000	0.00
Total TCDD			ND		0.44		
1,2,3,7,8-PeCDD			ND		0.28	0.500	0.00
Total PeCDD			ND		0.33		
1,2,3,4,7,8-HxCDD			ND		0.25	0.100	0.00
1,2,3,6,7,8-HxCDD			ND		1.0	0.100	0.00
1,2,3,7,8,9-HxCDD			ND		0.68	0.100	0.00
Total HxCDD			**3.2**				
1,2,3,4,6,7,8-HpCDD			**21**			**0.010**	**0.21**
Total HpCDD			**53**				
OCDD			**210**			**0.001**	**0.21**
2,3,7,8-TCDF			**5.7**	**CON**		**0.100**	**0.57**
Total TCDF			**29**				
1,2,3,7,8-PeCDF	U		ND		0.61	0.050	0.00
2,3,4,7,8-PeCDF			ND		1.6	0.500	0.00
Total PeCDF			**6.7**				
1,2,3,4,7,8-HxCDF	U		ND		1.9	0.100	0.00
1,2,3,6,7,8-HxCDF			ND		0.91	0.100	0.00
2,3,4,6,7,8-HxCDF			ND		0.56	0.100	0.00
1,2,3,7,8,9-HxCDF			ND		0.26	0.100	0.00
Total HxCDF			**11**				
1,2,3,4,6,7,8-HpCDF			**16**			**0.010**	**0.16**
1,2,3,4,7,8,9-HpCDF	U		ND		0.33	0.010	0.00
Total HpCDF			**30**				
OCDF	U		ND		5.5	0.001	0.00
Total TEQ Concentration *							**1.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	81	40 - 135
13C-1,2,3,7,8-PeCDD	70	40 - 135
13C-1,2,3,6,7,8-HxCDD	89	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	94	40 - 135
13C-OCDD	108	40 - 135
13C-2,3,7,8-TCDF	81	40 - 135
13C-1,2,3,7,8-PeCDF	75	40 - 135
13C-1,2,3,4,7,8-HxCDF	87	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	98	40 - 135

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

CON Confirmation analysis.

* Not validated.

AMEC VALIDATED

LEVEL V

DATA ASSESSMENT FORM

Project Title:	Rocketdyne
Project Manager:	D. Hambrick
Analysis/Method:	Dioxins and Furans/EPA Method 8290
QC Level:	V[1]
SDG:	IJI0967
Matrix:	Soil
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Date Reviewed:	March 4, 2002
Reviewer:	L. Calvin
References:	National Functional Guidelines for Organic Data Review (2/94) and SW-846 Method 8290 (9/94).
Samples Reviewed:	PC-43

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COCs had appropriate relinquish and receipt signatures. The sample was received at Del Mar Laboratory with a cooler temperature within the limits of 4°C ±2°C; however, the laboratory login sheet noted that the sample was received at Triangle with a cooler temperature of 7°C. The COC noted that the sample was received intact. The sample was extracted within 30 days of collection and analyzed within 45 days of extraction.	Due to the nonvolatile nature of the Method 8290 analysis, no qualifications were required for the elevated cooler temperature.
4. Method Blanks	One soil method blank was extracted and analyzed with the samples in this SDG. There were no reported target compound detects in the method blank.	No qualifications were required.
5. LCS/BS	One soil LCS/LCSD pair was extracted and analyzed with the sample in this SDG. All percent recoveries were within the laboratory QC limits of 70-130%, and all RPDs were within the QC limit of 20%.	No qualifications were required.

	Findings	Qualifications
6. MS/MSDs	No MS/MSD analyses were performed in this SDG. Evaluation of method accuracy and precision were based on the LCS/LCSD results.	No qualifications were required.
7. Field QC Samples ER: None FB: None FD: None	No field QC samples were identified for the sample in this SDG.	No qualifications were required.
9. Internal Standards	All internal standard recoveries were within the method QC limits of 40-135%.	No qualifications were required.
10. Other	Any individual congener results reported as EMPCs were considered nondetects, as were any totals reported only as EMPCs. The sample results were reported on a dry-weight basis. Results reported with the laboratory qualifier "J," were concentrations below the lower calibration level.	All target compound and total EMPCs were qualified as estimated nondetects, "UJ."
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Del Mar Analytical

TLI Project: **52003r1** — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **IJI0970-16/PC-43** — Analysis File: **S004551**

Client Project:	IJI0970			ICal:	SF57130
Sample Matrix:	SOIL	Date Received:	10/02/2000	Spike File:	SPMIT32S
TLI ID:	271-33-2	Date Extracted:	10/08/2000	1st CCal:	S004544
		Date Analyzed:	10/11/2000	End CCal:	S004558
Sample Size:	11.600 g	Dilution Factor:	n/a	% Moisture:	12.6
Dry Weight:	10.138 g	Blank File:	S004545	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JMM	% Solids:	87.4

Analytes	Qual	Conc. (pg/g)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	U	ND	0.10				—
1,2,3,7,8-PeCDD		ND	0.10				—
1,2,3,4,7,8-HxCDD		ND	0.1				—
1,2,3,6,7,8-HxCDD		ND	0.1				—
1,2,3,7,8,9-HxCDD		ND	0.1				—
1,2,3,4,6,7,8-HpCDD		ND	0.2				—
1,2,3,4,6,7,8,9-OCDD	J	0.88			0.95	40:59	J
2,3,7,8-TCDF	U	ND	0.07				—
1,2,3,7,8-PeCDF		ND	0.08				—
2,3,4,7,8-PeCDF		ND	0.08				—
1,2,3,4,7,8-HxCDF		ND	0.08				—
1,2,3,6,7,8-HxCDF		ND	0.07				—
2,3,4,6,7,8-HxCDF		ND	0.08				—
1,2,3,7,8,9-HxCDF		ND	0.09				—
1,2,3,4,6,7,8-HpCDF		ND	0.1				—
1,2,3,4,7,8,9-HpCDF		ND	0.1				—
1,2,3,4,6,7,8,9-OCDF		ND	0.2				—

Totals	Qual	Conc. (pg/g)	Number	DL	EMPC	Flags
Total TCDD	U	ND		0.10		—
Total PeCDD		ND		0.10		—
Total HxCDD		ND		0.1		—
Total HpCDD		ND		0.2		—
Total TCDF	UJ	EMPC			0.41	—
Total PeCDF	U	ND		0.08		—
Total HxCDF		ND		0.08		—
Total HpCDF		0.36	1			—

AMEC VALIDATED
LEVEL V

MIT3_PSR v1.00, LARS 6.25.001

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 20:57 10/12/2000