ATTACHMENT A1-3
Electronic Copy of Validation Reports, COCs, and Case Narratives
Readme File

This Readme file contains information and instructions regarding the use of electronic copies of validation reports, chain-of-custody forms, case narratives, and data tables included in Attachment A1-3 of the *Group 6-Northeastern Portion Area IV RCRA Facility Investigation (RFI) Report Santa Susana Field Laboratory* (MWH 2006), and is provided electronically on the compact disc (CD) provided in this attachment.

This section provides a read-only CD that contains a summary data table and electronic copies of validation reports, chain-of-custody (COC) forms, and the case narratives of the samples that were collected at the New Conservation Yard (NCY) RFI Site (SWMU 7.8). All data in the tables and documents included in this section were used for the RFI characterization and/or risk assessment of NCY in Appendix A4 of the Group 6-Northeastern Area IV Bundle Report.

There are two main components to this section (one folder and one summary data table):

1. Soil and SW

This folder contains sampling and analytical information for soil and surface water samples collected at NCY. The folder is subdivided into two additional folders:

- **COC – Case Narratives:** This subfolder contains COCs, analytical request change forms (where applicable), and analytical report case narratives that are presented as electronic files. The electronic files are scanned images of hard copy documents presented in Portable Document Format (PDF) files, which can be viewed using Adobe Acrobat software. The electronic files are grouped and are organized in this subfolder by the sample delivery group (SDG) number, a tracking and reporting number used by the laboratory to group up to 20 samples upon receipt.

  The COCs were generated in the field at the time of sample collection to document the handling and change of custody of the samples.

  The case narrative is text typically found at the beginning of the laboratory report. Laboratories use the case narrative to describe any deviation from standard handling or analytical procedures for a sample or SDG. Information regarding lab certification and lab qualification codes can also be found in the case narrative files.

  Change Forms are generated for samples subsequent to shipment to the laboratory. Generally, change forms were generated when changes or corrections to a COC were needed (e.g., when additional analyses were requested for a sample).

  Validation Reports: Validation reports include laboratory results and a data assessment form completed by AMEC Earth and Environmental, Inc. (AMEC) or MEC^X, LLC (MEC^X) data validators. The validation report summaries identify the

analytical method and target compounds for each sample. Additionally, the report indicates whether each compound was detected, the concentration (or detection limit if not detected), and applicable laboratory and data validation qualifiers. With the exception of field QC samples (field blanks, equipment rinsates), all analytical data generated from background field samples were validated by AMEC or MEC^X. Data validation report PDFs are sorted by their validation report numbers), which can be associated with results of interest in the NCY Data Table (see description in section 2A below).

2. NCY Data Table

This table is a sampling and analytical results table for NCY samples included in the NCY RFI characterization. The table is provided in PDF format. The data was queried from the SSFL database, which has been maintained throughout the history of the RFI program. The table is sorted by sample identification, then by analytical method, then by analyte, then by EPA number (where applicable).

Results included in the NCY RFI risk assessment are populated with a "yes" in the 'Included in Risk Assessment' column of the table.

This table can be used as a correlation look-up table to make documents in this appendix easier to access. The structure and directions for use of this table is described below.

A. Table Structure

- **EPA Number** – Unique identifier assigned in the field to samples to identify analytical laboratory and facilitate database management. EPA numbers were not assigned to samples collected after June 15, 2006. 'The EPA Number' column is blank for samples collected after this date.
- **Sample Identification** –Identification assigned to sample to denote RFI site, sample collection method and sample matrix type, sample location, and sample number. Naming conventions are described in Table 4-1 of the Program Report (MWH 2004).
- **Analytical Method** – Analytical method use to analyze sample.
- **Analyte** – Chemical for which the sample is analyzed.
- **Concentration** – The concentration of a detected analyte or, if the analyte was not detected, the detection limit.
- **Units** – Unit of measurement for analyte (e.g., milligrams per kilogram [mg/kg]).
- **Reviewer Qualifier** – Review Qualifier code assigned by data reviewer at AMEC or MEC^X during the validation process. These codes are defined in Table 1.2 of Appendix A of the Program Report. Reviewer qualifiers with an '*' were not validated. The qualifier code preceding the asterisk was usually provided by the analytical laboratory.
- **Detection Limit**– Minimum reportable concentration of an analyte as determined by the laboratory.

- **Matrix** – Surficial sample matrix. See Sample Collection and Matrix Type section of Table 4-1 of the Program Report (MWH 2000).
- **Collection Date** – Date of sample collection.
- **Depth (ft bgs)** – Sample depth (feet below ground surface).
- **Sample Type** – Sample type indicates whether the samples is a primary, field duplicate, or split sample. A more detailed description of the different sample types can be found in the Quality Assurance Project Plan (QAPP) (Ogden 2000a).
- **SDG Number** – SDG number assigned by the laboratory upon receipt of samples. A single SDG number is assigned to all samples on one COC form (up to 20 samples), and each laboratory report includes one SDG.
- **Excavated** – Indicates whether the soil from which the sample was collected has been excavated. If the sample was excavated, this column is populated with "yes". Samples that have not been excavated are designated with "no" in this column.
- **Contained or Transformer** – Indicates the sample was collected from a contained unit if there is a 'C' in this field. 'A' indicates aerial photo site. 'T' indicates samples collected at or near transformers. 'R' indicates soil associated with sample that has been excavated (for samples collected prior the start of RFI program sampling in May 22, 1996). 'LF' indicates 'Leach Field' samples (applies only to pre-RFI samples).
- **Analytical Laboratory** – Analytical laboratory where the sample was analyzed.
- **Laboratory Sample Number** – Unique identifier assigned by the analytical laboratory to field samples and laboratory QC samples for internal use and reporting purposes.
- **Validation Report Number** – Tracking number assigned by AMEC or MEC^{X}. The validation report number provides a system to associate the data in the RFI database with the hard copy version of the validation report. Validation report number assignments and method associations are defined in Table B-1-2 of Appendix B-1in the Program Report.
- **Northings and Eastings** – Map Coordinates (State Plane, NAD 27 Zone V).
- **Publication** – Document reference for samples whose results were discussed in a previously published document. Used mainly for pre-RFI samples.
- **Included in Risk Assessment** – Populated with either a "yes" or a "no". A "yes" in this column indicates the result was included in the risk assessment for NCY. A "no" in this column indicates the result was not included in the risk assessment for NCY. See Appendix C of the Group 6 Bundle Report for more information regarding risk assessments.
- **Rationale for Risk Exclusion –** provides justification for not including a result in the risk assessment for NCY. This applies only to samples that were not included in the risk assessment. Results with no value in this column were included in the risk assessment. See Appendix C of the Group 6 Bundle Report for more information regarding risk assessments.

B. Instructions for use as look-up tables

These tables are configured to facilitate the search for a document in any of the folders described above. To locate documents for samples associated with a particular result:

1. Using the table's sorting priority described earlier in this section Locate the sample identification and laboratory method.

2. Scroll right to the SDG and validation report number columns.

3. Note the appropriate SDG and validation report number.

Locate the document of interest under the appropriate folder as described above. The folders containing COCs, case narratives, and results that were not validated are organized by SDG number. Validation reports are organized by the validation report numbers.

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
RF879	NCBS01S01	6010	Antimony	12	mg/kg	UJ	12	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Barium	94	mg/kg		1	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Beryllium	0.6	mg/kg	U	0.6	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Cadmium	1	mg/kg	U	1	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Chromium	21	mg/kg		2	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Cobalt	6	mg/kg		2	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Copper	17	mg/kg		2	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Lead	34	mg/kg		6	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Molybdenum	12	mg/kg	U	12	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Nickel	15	mg/kg		6	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Silver	1	mg/kg	U	1	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Vanadium	34	mg/kg		2	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	6010	Zinc	100	mg/kg		1	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	7060	Arsenic	6	mg/kg	U	6	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	7740	Selenium	6	mg/kg	U	6	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	7841	Thallium	6	mg/kg	U	6	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400MT29	267993.219	1787701.87		OGDEN	yes	
RF879	NCBS01S01	9045	pH	7.8	pH units	J	0.1	Soil	11/17/1997	0.5	Primary Sample	L9703923	no		CAS	L9703923-015	T400WC38	267993.219	1787701.87		OGDEN	yes	
RF242	NCBS02S01	6010	Antimony	12	mg/kg	UJ	12	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Barium	85	mg/kg		1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Beryllium	0.6	mg/kg	U	0.6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Cadmium	20	mg/kg		1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Chromium	72	mg/kg		2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Cobalt	14	mg/kg		2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Copper	200	mg/kg		2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Lead	100	mg/kg		6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Molybdenum	12	mg/kg	U	12	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Nickel	81	mg/kg		6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Silver	5	mg/kg		1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Vanadium	35	mg/kg		2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	6010	Zinc	1100	mg/kg		1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	7060	Arsenic	9	mg/kg		6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RS681	NCBS02S01	7196	Hexavalent Chromium	2.2	mg/kg	U	2.2	Soil	1/27/1998	0.5	Primary Sample	L9800225	no		CAS	L9800225-001	T400WC65	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	7471	Mercury	1	mg/kg		0.2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	7740	Selenium	6	mg/kg	UJ	6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	7841	Thallium	6	mg/kg	U	6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF242	NCBS02S01	9045	pH	7.6	pH units	J	0.1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-002	T400WC19	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Antimony	10	mg/kg	UJ	10	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Barium	96	mg/kg		1	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Beryllium	0.7	mg/kg		0.5	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Cadmium	1	mg/kg	U	1	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Chromium	18	mg/kg		2	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Cobalt	8	mg/kg		2	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Copper	16	mg/kg		2	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Lead	12	mg/kg		5	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Molybdenum	10	mg/kg	U	10	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Nickel	14	mg/kg		5	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Silver	1	mg/kg	U	1	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Vanadium	34	mg/kg		2	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	6010	Zinc	100	mg/kg		1	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	7060	Arsenic	5	mg/kg	U	5	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	7471	Mercury	0.2	mg/kg	U	0.2	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	7740	Selenium	5	mg/kg	UJ	5	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	7841	Thallium	5	mg/kg	U	5	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400MT18	268062.25	1787633.87		OGDEN	yes	
RF243	NCBS02S02	9045	pH	7.4	pH units	J	0.1	Soil	11/11/1997	6	Primary Sample	L9703846	no		CAS	L9703846-003	T400WC19	268062.25	1787633.87		OGDEN	yes	
RF244	NCBS03S01	6010	Antimony	11	mg/kg	UJ	11	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Barium	79	mg/kg		1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Beryllium	0.6	mg/kg	U	0.6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Cadmium	4	mg/kg		1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Chromium	56	mg/kg		2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Cobalt	12	mg/kg		2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Copper	110	mg/kg		2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Lead	44	mg/kg		6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Molybdenum	11	mg/kg	U	11	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Nickel	130	mg/kg		6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
RF244	NCBS03S01	6010	Silver	1	mg/kg	U	1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Vanadium	31	mg/kg		2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	6010	Zinc	640	mg/kg		1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	7060	Arsenic	6	mg/kg	U	6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	7740	Selenium	6	mg/kg	UJ	6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	7841	Thallium	6	mg/kg	U	6	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF244	NCBS03S01	9045	pH	7.5	pH units	J	0.1	Soil	11/11/1997	0.5	Primary Sample	L9703846	no		CAS	L9703846-004	T400WC19	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Antimony	11	mg/kg	UJ	11	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Barium	89	mg/kg		1	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Beryllium	0.8	mg/kg		0.6	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Cadmium	1	mg/kg	U	1	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Chromium	17	mg/kg		2	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Cobalt	5	mg/kg		2	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Copper	8	mg/kg		2	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Lead	9	mg/kg		6	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Molybdenum	11	mg/kg	U	11	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Nickel	11	mg/kg		6	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Silver	1	mg/kg	U	1	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Vanadium	34	mg/kg		2	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	6010	Zinc	45	mg/kg	J	1	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	7060	Arsenic	6	mg/kg	U	6	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	7471	Mercury	0.2	mg/kg	U	0.2	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	7740	Selenium	6	mg/kg	UJ	6	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	7841	Thallium	6	mg/kg	U	6	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400MT18	268069.25	1787711.87		OGDEN	yes	
RF245	NCBS03S02	9045	pH	7.5	pH units	J	0.1	Soil	11/11/1997	5	Primary Sample	L9703846	no		CAS	L9703846-005	T400WC19	268069.25	1787711.87		OGDEN	yes	
RS546	NCBS04S01	6010	Antimony	11	mg/kg	UJ	11	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Barium	97	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Beryllium	0.7	mg/kg		0.5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Cadmium	1	mg/kg	U	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Chromium	20	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Cobalt	7	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Copper	11	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Lead	11	mg/kg		5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Molybdenum	11	mg/kg	U	11	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Nickel	16	mg/kg		5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Silver	1	mg/kg	U	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Vanadium	36	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	6010	Zinc	58	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	7060	Arsenic	5	mg/kg	U	5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	7740	Selenium	5	mg/kg	U	5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS546	NCBS04S01	7841	Thallium	5	mg/kg	U	5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-008	T400MT39	268108.594	1787670.25		OGDEN	yes	
RS547	NCBS05S01	6010	Antimony	11	mg/kg	UJ	11	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Barium	90	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Beryllium	0.7	mg/kg		0.6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Cadmium	1	mg/kg	U	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Chromium	22	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Cobalt	7	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Copper	11	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Lead	9	mg/kg		6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Molybdenum	11	mg/kg	U	11	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Nickel	14	mg/kg		6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Silver	1	mg/kg	U	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Vanadium	38	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	6010	Zinc	55	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	7060	Arsenic	6	mg/kg	U	6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	7740	Selenium	6	mg/kg	U	6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS547	NCBS05S01	7841	Thallium	6	mg/kg	U	6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-009	T400MT39	268090.437	1787761.37		OGDEN	yes	
RS548	NCBS06S01	6010	Antimony	11	mg/kg	UJ	11	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Barium	60	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Beryllium	0.5	mg/kg	U	0.5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Cadmium	1	mg/kg	U	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Chromium	19	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
RS548	NCBS06S01	6010	Cobalt	7	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Copper	11	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Lead	7	mg/kg		5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Molybdenum	11	mg/kg	U	11	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Nickel	14	mg/kg		5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Silver	1	mg/kg	U	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Vanadium	31	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	6010	Zinc	43	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	7060	Arsenic	5	mg/kg	U	5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	7740	Selenium	5	mg/kg	U	5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
RS548	NCBS06S01	7841	Thallium	5	mg/kg	U	5	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-010	T400MT39	268089.719	1787598.25		OGDEN	yes	
MJ610	NCBS07S01	1613	1,2,3,4,6,7,8-HpCDD	12.7	ng/kg			Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,4,6,7,8-HpCDF	1.87	ng/kg	J		Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,4,7,8,9-HpCDF	0.189	ng/kg	UJ	0.189	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,4,7,8-HxCDD	0.34	ng/kg	U	0.34	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,4,7,8-HxCDF	0.404	ng/kg	J		Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,6,7,8-HxCDD	0.333	ng/kg	J		Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,6,7,8-HxCDF	0.178	ng/kg	J		Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,7,8,9-HxCDD	0.197	ng/kg	U	0.197	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,7,8,9-HxCDF	0.269	ng/kg	U	0.269	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,7,8-PeCDD	0.128	ng/kg	U	0.128	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	1,2,3,7,8-PeCDF	0.167	ng/kg	J		Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	2,3,4,6,7,8-HxCDF	0.235	ng/kg	J		Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	2,3,4,7,8-PeCDF	0.187	ng/kg	J		Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	2,3,7,8-TCDD	0.129	ng/kg	U	0.129	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	2,3,7,8-TCDF	0.186	ng/kg	J		Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	OCDD	151	ng/kg			Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	OCDF	3.09	ng/kg	J		Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	TCDD TEQ (ND = 0)	0.396559	ng/kg			Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	Total HpCDD	48.2	ng/kg			Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	Total HpCDF	6.83	ng/kg		7.02	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	Total HxCDD	3.68	ng/kg			Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	Total HxCDF	3.96	ng/kg		4.21	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	Total PeCDD	0.494	ng/kg		0.786	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	Total PeCDF	1.32	ng/kg			Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	Total TCDD	0.734	ng/kg		0.91	Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	1613	Total TCDF	0.928	ng/kg			Soil	2/13/2006	5	Primary Sample	IPB1429	no		ALTA	IPB1429-03	B5DF3	268127.406	1787258.63		MWH	yes	
RS549	NCBS07S01	6010	Antimony	11	mg/kg	UJ	11	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Barium	75	mg/kg	J	1	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Beryllium	0.7	mg/kg		0.5	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Cadmium	1	mg/kg	U	1	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Chromium	20	mg/kg		2	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Cobalt	6	mg/kg		2	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Copper	7	mg/kg		2	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Lead	9	mg/kg		5	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Molybdenum	11	mg/kg	U	11	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Nickel	10	mg/kg		5	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Silver	1	mg/kg	U	1	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Vanadium	39	mg/kg		2	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	6010	Zinc	51	mg/kg	J	1	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	7060	Arsenic	5	mg/kg	U	5	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	7740	Selenium	5	mg/kg	U	5	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	7841	Thallium	5	mg/kg	U	5	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400MT39	268127.406	1787258.63		OGDEN	yes	
RS549	NCBS07S01	9045	pH	7.9	pH units	J	0.1	Soil	12/11/1997	5	Primary Sample	L9704259	no		CAS	L9704259-011	T400WC57	268127.406	1787258.63		OGDEN	yes	
MJ610	NCBS07S01	1625C MOD.	N-nitrosodimethylamine	3.2	ug/kg	U	3.2	Soil	2/13/2006	5	Primary Sample	IPB1429	no		DELMAR	IPB1429-03	B5ND1	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	1-Methylnaphthalene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	2-Methylnaphthalene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Acenaphthene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Acenaphthylene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Anthracene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Benzo(a)anthracene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Benzo(a)pyrene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Benzo(b)fluoranthene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
MJ610	NCBS07S01	8270C SIM	Benzo(g,h,i)perylene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Benzo(k)fluoranthene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Chrysene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Dibenzo(a,h)anthracene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Fluoranthene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Fluorene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Indeno(1,2,3-cd)pyrene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Naphthalene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Phenanthrene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ610	NCBS07S01	8270C SIM	Pyrene	22	ug/kg	U	22	Soil	2/13/2006	5	Primary Sample	IPB1429	no		CEL	IPB1429-03	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	1625C MOD.	N-nitrosodimethylamine	7	ug/kg	U	7	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-01	B5ND1	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	1-Methylnaphthalene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	2-Methylnaphthalene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Acenaphthene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Acenaphthylene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Anthracene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Benzo(a)anthracene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Benzo(a)pyrene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Benzo(b)fluoranthene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Benzo(g,h,i)perylene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Benzo(k)fluoranthene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Chrysene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Dibenzo(a,h)anthracene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Fluoranthene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Fluorene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Indeno(1,2,3-cd)pyrene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Naphthalene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Phenanthrene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
MJ608	NCBS07S02	8270C SIM	Pyrene	23	ug/kg	U	23	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-01	B5PA2	268127.406	1787258.63		MWH	yes	
RS550	NCBS08S01	6010	Antimony	12	mg/kg	UJ	12	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Barium	990	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Beryllium	0.6	mg/kg	U	0.6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Cadmium	1	mg/kg	U	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Chromium	28	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Cobalt	6	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Copper	14	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Lead	36	mg/kg		6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Molybdenum	12	mg/kg	U	12	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Nickel	12	mg/kg		6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Silver	85	mg/kg		1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Vanadium	29	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	6010	Zinc	1300	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	7060	Arsenic	6	mg/kg	U	6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	7740	Selenium	6	mg/kg	U	6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS550	NCBS08S01	7841	Thallium	6	mg/kg	U	6	Soil	12/11/1997	0.5	Primary Sample	L9704259	no		CAS	L9704259-012	T400MT39	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Antimony	11	mg/kg	UJ	11	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Barium	91	mg/kg		1	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Beryllium	0.6	mg/kg		0.6	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Cadmium	1	mg/kg	U	1	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Chromium	19	mg/kg		2	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Cobalt	9	mg/kg		2	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Copper	8	mg/kg		2	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Lead	9	mg/kg		6	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Molybdenum	11	mg/kg	U	11	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Nickel	12	mg/kg		6	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Silver	1	mg/kg	U	1	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Vanadium	37	mg/kg		2	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	6010	Zinc	49	mg/kg		1	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	7060	Arsenic	6	mg/kg	U	6	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	7471	Mercury	0.2	mg/kg	UJ	0.2	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	7740	Selenium	6	mg/kg	U	6	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS551	NCBS08S02	7841	Thallium	6	mg/kg	U	6	Soil	12/11/1997	4	Primary Sample	L9800073	no		CAS	L9800073-002	T400MT45	268108.562	1787303.75		OGDEN	yes	
RS552	NCBS09S01	6010	Antimony	11	mg/kg	UJ	11	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Barium	45	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
RS552	NCBS09S01	6010	Beryllium	0.5	mg/kg	U	0.5	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Cadmium	1	mg/kg	U	1	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Chromium	9	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Cobalt	3	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Copper	3	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Lead	6	mg/kg		5	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Molybdenum	11	mg/kg	U	11	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Nickel	5	mg/kg	U	5	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Silver	1	mg/kg	U	1	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Vanadium	19	mg/kg		2	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	6010	Zinc	46	mg/kg	J	1	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	7060	Arsenic	5	mg/kg	U	5	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	7740	Selenium	5	mg/kg	UJ	5	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
RS552	NCBS09S01	7841	Thallium	5	mg/kg	U	5	Soil	12/11/1997	0.5	Primary Sample	L9704229	no		CAS	L9704229-020	T400MT38	268161.906	1787293		OGDEN	yes	
MJ618	NCBS10S01	1613	1,2,3,4,6,7,8-HpCDD	125	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,4,6,7,8-HpCDF	22.3	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,4,7,8,9-HpCDF	1.86	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,4,7,8-HxCDD	0.862	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,4,7,8-HxCDF	2.6	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,6,7,8-HxCDD	3.35	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,6,7,8-HxCDF	1.22	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,7,8,9-HxCDD	1.89	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,7,8,9-HxCDF	0.806	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,7,8-PeCDD	0.491	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	1,2,3,7,8-PeCDF	0.647	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	2,3,4,6,7,8-HxCDF	1.45	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	2,3,4,7,8-PeCDF	1.62	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	2,3,7,8-TCDD	0.252	ng/kg	U	0.252	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	2,3,7,8-TCDF	1.48	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	OCDD	1510	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	OCDF	48.9	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	TCDD TEQ (ND = 0)	4.34664	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	Total HpCDD	373	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	Total HpCDF	70.6	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	Total HxCDD	30	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	Total HxCDF	38.8	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	Total PeCDD	3.31	ng/kg		3.98	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	Total PeCDF	11.6	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	Total TCDD	4.04	ng/kg		4.36	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
MJ618	NCBS10S01	1613	Total TCDF	14	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-10	B5DF3	268062.75	1787322.5		MWH	yes	
RS679	NCBS10S01	6010	Barium	140	mg/kg	J	1	Soil	1/27/1998	0.5	Primary Sample	L9800209	no		CAS	L9800209-019	T400MT48	268062.75	1787322.5		OGDEN	yes	
RS679	NCBS10S01	6010	Lead	15	mg/kg		6	Soil	1/27/1998	0.5	Primary Sample	L9800209	no		CAS	L9800209-019	T400MT48	268062.75	1787322.5		OGDEN	yes	
RS679	NCBS10S01	6010	Silver	8	mg/kg		1	Soil	1/27/1998	0.5	Primary Sample	L9800209	no		CAS	L9800209-019	T400MT48	268062.75	1787322.5		OGDEN	yes	
RS679	NCBS10S01	6010	Zinc	160	mg/kg	J	1	Soil	1/27/1998	0.5	Primary Sample	L9800209	no		CAS	L9800209-019	T400MT48	268062.75	1787322.5		OGDEN	yes	
RS680	NCBS11S01	6010	Barium	160	mg/kg	J	1	Soil	1/27/1998	0.5	Primary Sample	L9800209	no		CAS	L9800209-020	T400MT48	268105.688	1787375.37		OGDEN	yes	
RS680	NCBS11S01	6010	Lead	31	mg/kg		6	Soil	1/27/1998	0.5	Primary Sample	L9800209	no		CAS	L9800209-020	T400MT48	268105.688	1787375.37		OGDEN	yes	
RS680	NCBS11S01	6010	Silver	5	mg/kg		1	Soil	1/27/1998	0.5	Primary Sample	L9800209	no		CAS	L9800209-020	T400MT48	268105.688	1787375.37		OGDEN	yes	
RS680	NCBS11S01	6010	Zinc	240	mg/kg	J	1	Soil	1/27/1998	0.5	Primary Sample	L9800209	no		CAS	L9800209-020	T400MT48	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,4,6,7,8-HpCDD	600	ng/kg		2.2	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,4,6,7,8-HpCDF	220	ng/kg	UJ	220	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,4,7,8,9-HpCDF	12	ng/kg	J	202	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,4,7,8-HxCDD	4.4	ng/kg	J	0.86	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,4,7,8-HxCDF	17	ng/kg		0.82	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,6,7,8-HxCDD	17	ng/kg		0.73	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,6,7,8-HxCDF	19	ng/kg	UJ	19	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,7,8,9-HxCDD	5.8	ng/kg	J	0.97	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,7,8,9-HxCDF	4.7	ng/kg	J	1.1	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,7,8-PeCDD	1	ng/kg	U	1	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	1,2,3,7,8-PeCDF	5.4	ng/kg	J	0.94	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	2,3,4,6,7,8-HxCDF	14	ng/kg	J	0.81	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	2,3,4,7,8-PeCDF	19	ng/kg		1	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	2,3,7,8-TCDD	1.4	ng/kg	U	1.4	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	2,3,7,8-TCDF	13	ng/kg	J	1.2	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	OCDD	6900	ng/kg		1.2	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
RJ014	NCBS11S01	8290	OCDF	270	ng/kg		5.01	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	TCDD TEQ (ND = 0)	24.197	ng/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	Total HpCDD	1000	ng/kg		202	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	Total HpCDF	180	ng/kg		1.3	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	Total HxCDD	150	ng/kg		0.85	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	Total HxCDF	210	ng/kg		0.93	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	Total PeCDD	6.6	ng/kg	J	1	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	Total PeCDF	68	ng/kg		0.98	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	Total TCDD	45	ng/kg		1.4	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8290	Total TCDF	70	ng/kg		1.2	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		PACE	2140431-503	T700DF18	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	2-Methylnaphthalene	4	ug/kg	U	4	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Acenaphthene	4	ug/kg	U	4	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Acenaphthylene	4	ug/kg	U	4	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Anthracene	4	ug/kg	U	4	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Benzo(a)anthracene	12	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Benzo(a)pyrene	13	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Benzo(b)fluoranthene	24	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Benzo(g,h,i)perylene	18	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Benzo(k)fluoranthene	12	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Chrysene	24	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Dibenzo(a,h)anthracene	8	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Fluoranthene	31	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Fluorene	4	ug/kg	U	4	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Indeno(1,2,3-cd)pyrene	15	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Naphthalene	4	ug/kg	U	4	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	N-nitrosodimethylamine	4	ug/kg	U	4	Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Phenanthrene	14	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RJ014	NCBS11S01	8270C SIM	Pyrene	23	ug/kg			Soil	6/29/2000	0.5	Primary Sample	RJ503	no		CEIMIC	200457-12	T700PA2	268105.688	1787375.37		OGDEN	yes	
RS763	NCBS11S02	6010	Lead	10	mg/kg		6	Soil	4/9/1998	3	Primary Sample	L9801064	no		CAS	L9801064-011	T400MT60	268105.688	1787375.37		OGDEN	yes	
RS763	NCBS11S02	6010	Zinc	43	mg/kg	J	1	Soil	4/9/1998	3	Primary Sample	L9801064	no		CAS	L9801064-011	T400MT60	268105.688	1787375.37		OGDEN	yes	
MJ617	NCBS12S01	1613	1,2,3,4,6,7,8-HpCDD	75	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,4,6,7,8-HpCDF	12.8	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,4,7,8,9-HpCDF	1.2	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,4,7,8-HxCDD	0.841	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,4,7,8-HxCDF	0.798	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,6,7,8-HxCDD	2.11	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,6,7,8-HxCDF	0.437	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,7,8,9-HxCDD	1.94	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,7,8,9-HxCDF	0.289	ng/kg	UJ	0.289	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,7,8-PeCDD	0.477	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	1,2,3,7,8-PeCDF	0.181	ng/kg	UJ	0.181	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	2,3,4,6,7,8-HxCDF	0.71	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	2,3,4,7,8-PeCDF	0.53	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	2,3,7,8-TCDD	0.111	ng/kg	U	0.111	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	2,3,7,8-TCDF	0.371	ng/kg	UJ	0.371	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	OCDD	946	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	OCDF	85.7	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	TCDD TEQ (ND = 0)	2.41877	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	Total HpCDD	149	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	Total HpCDF	58.2	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	Total HxCDD	16.2	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	Total HxCDF	15.8	ng/kg		16.1	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	Total PeCDD	1.18	ng/kg		1.94	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	Total PeCDF	4.81	ng/kg		4.99	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	Total TCDD	0.111	ng/kg	U	0.111	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
MJ617	NCBS12S01	1613	Total TCDF	2	ng/kg		2.37	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-09	B5DF3	268103.281	1787482.13		MWH	yes	
RS764	NCBS12S01	6010	Barium	34	mg/kg	J	1	Soil	4/9/1998	0.5	Primary Sample	L9801064	no		CAS	L9801064-012	T400MT60	268103.281	1787482.13		OGDEN	yes	
RS764	NCBS12S01	6010	Lead	23	mg/kg		6	Soil	4/9/1998	0.5	Primary Sample	L9801064	no		CAS	L9801064-012	T400MT60	268103.281	1787482.13		OGDEN	yes	
RS764	NCBS12S01	6010	Silver	1	mg/kg	U	1	Soil	4/9/1998	0.5	Primary Sample	L9801064	no		CAS	L9801064-012	T400MT60	268103.281	1787482.13		OGDEN	yes	
RS764	NCBS12S01	6010	Zinc	86	mg/kg	J	1	Soil	4/9/1998	0.5	Primary Sample	L9801064	no		CAS	L9801064-012	T400MT60	268103.281	1787482.13		OGDEN	yes	
MJ611	NCBS14S01	6020	Arsenic	2	mg/kg		0.26	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Barium	82	mg/kg	J	0.083	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Beryllium	0.49	mg/kg		0.042	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Cadmium	0.14	mg/kg	J	0.021	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Chromium	15	mg/kg	J	0.31	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
MJ611	NCBS14S01	6020	Cobalt	5.2	mg/kg		0.021	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Copper	8.8	mg/kg	J	0.21	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Lead	4.9	mg/kg	J	0.021	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Molybdenum	0.59	mg/kg	UJ	0.59	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Nickel	11	mg/kg	J	0.21	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Selenium	0.21	mg/kg	UJ	0.21	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Silver	0.078	mg/kg	UJ	0.078	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Thallium	0.33	mg/kg		0.1	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Vanadium	26	mg/kg	J	0.42	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6020	Zinc	43	mg/kg	J	0.52	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6010B	Aluminum	12000	mg/kg		5.2	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	6010B	Boron	6.8	mg/kg	UJ	6.8	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ611	NCBS14S01	7471A	Mercury	0.0087	mg/kg	UJ	0.0087	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-04	B5MT11	268062.51	1787264.44		MWH	yes	
MJ612	NCBS15S01	6020	Arsenic	1.9	mg/kg		0.31	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Barium	79	mg/kg	J	0.1	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Beryllium	0.36	mg/kg		0.05	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Cadmium	0.33	mg/kg	J	0.025	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Chromium	14	mg/kg	J	0.37	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Cobalt	4.3	mg/kg		0.025	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Copper	8.5	mg/kg	J	0.25	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Lead	11	mg/kg	J	0.025	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Molybdenum	0.66	mg/kg	UJ	0.66	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Nickel	9.2	mg/kg	J	0.25	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Selenium	0.25	mg/kg	UJ	0.25	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Silver	0.57	mg/kg		0.025	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Thallium	0.34	mg/kg		0.12	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Vanadium	23	mg/kg	J	0.5	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6020	Zinc	48	mg/kg	J	0.62	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6010B	Aluminum	10000	mg/kg		6.2	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	6010B	Boron	6.6	mg/kg	UJ	6.6	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ612	NCBS15S01	7471A	Mercury	0.12	mg/kg		0.0037	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-05	B5MT11	268008.041	1787346.43		MWH	yes	
MJ614	NCBS16S01	6020	Arsenic	2.4	mg/kg		0.26	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Barium	77	mg/kg	J	0.082	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Beryllium	0.46	mg/kg		0.041	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Cadmium	0.14	mg/kg	J	0.021	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Chromium	16	mg/kg	J	0.31	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Cobalt	4.8	mg/kg		0.021	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Copper	8.5	mg/kg	J	0.21	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Lead	5.4	mg/kg	J	0.021	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Molybdenum	0.5	mg/kg	UJ	0.5	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Nickel	9.5	mg/kg	J	0.21	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Selenium	0.21	mg/kg	UJ	0.21	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Silver	0.052	mg/kg	UJ	0.052	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Thallium	0.26	mg/kg		0.1	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Vanadium	25	mg/kg	J	0.41	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6020	Zinc	38	mg/kg	J	0.51	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6010B	Aluminum	12000	mg/kg		5.1	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	6010B	Boron	6.3	mg/kg	UJ	6.3	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ614	NCBS16S01	7471A	Mercury	0.011	mg/kg	UJ	0.011	Soil	2/13/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-06	B5MT11	268035.304	1787434.36		MWH	yes	
MJ616	NCBS17S01	6020	Arsenic	2.5	mg/kg		0.28	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Barium	95	mg/kg	J	0.089	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Beryllium	0.43	mg/kg		0.044	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Cadmium	0.32	mg/kg	J	0.022	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Chromium	16	mg/kg	J	0.33	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Cobalt	5.2	mg/kg		0.022	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Copper	10	mg/kg	J	0.22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Lead	20	mg/kg		0.022	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Molybdenum	0.57	mg/kg	UJ	0.57	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Nickel	11	mg/kg	J	0.22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Selenium	0.22	mg/kg	UJ	0.22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Silver	2.4	mg/kg		0.022	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Thallium	0.26	mg/kg		0.11	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Vanadium	27	mg/kg	J	0.44	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6020	Zinc	110	mg/kg	J	0.55	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	6010B	Aluminum	14000	mg/kg		5.5	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
MJ616	NCBS17S01	6010B	Boron	7.6	mg/kg	UJ	7.6	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ616	NCBS17S01	7471A	Mercury	0.033	mg/kg		0.0033	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-08	B5MT11	268165.578	1787420.82		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,4,6,7,8-HpCDD	26500	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,4,6,7,8-HpCDF	2460	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,4,7,8,9-HpCDF	230	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,4,7,8-HxCDD	242	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,4,7,8-HxCDF	83	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,6,7,8-HxCDD	896	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,6,7,8-HxCDF	80.1	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,7,8,9-HxCDD	472	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,7,8,9-HxCDF	18.7	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,7,8-PeCDD	94.9	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	1,2,3,7,8-PeCDF	11.3	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	2,3,4,6,7,8-HxCDF	142	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	2,3,4,7,8-PeCDF	25.5	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	2,3,7,8-TCDD	42.3	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	2,3,7,8-TCDF	4.84	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	OCDD	275000	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	OCDF	6930	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	TCDD TEQ (ND = 0)	664.472	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	Total HpCDD	55300	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	Total HpCDF	11400	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	Total HxCDD	5960	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	Total HxCDF	3940	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	Total PeCDD	471	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	Total PeCDF	664	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	Total TCDD	77.4	ng/kg		78	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	1613	Total TCDF	186	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-01	B5DF11	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	8082	Aroclor 1016	190	ug/kg	U	190	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-01	B5PP14	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	8082	Aroclor 1221	190	ug/kg	U	190	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-01	B5PP14	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	8082	Aroclor 1232	190	ug/kg	U	190	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-01	B5PP14	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	8082	Aroclor 1242	190	ug/kg	U	190	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-01	B5PP14	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	8082	Aroclor 1248	190	ug/kg	U	190	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-01	B5PP14	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	8082	Aroclor 1254	190	ug/kg	U	190	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-01	B5PP14	267993.854	1787596.18		MWH	yes	
MJ775	NCBS18S01	8082	Aroclor 1260	190	ug/kg	U	190	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-01	B5PP14	267993.854	1787596.18		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,4,6,7,8-HpCDD	11400	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,4,6,7,8-HpCDF	2230	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,4,7,8,9-HpCDF	206	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,4,7,8-HxCDD	133	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,4,7,8-HxCDF	79.4	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,6,7,8-HxCDD	589	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,6,7,8-HxCDF	59.6	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,7,8,9-HxCDD	184	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,7,8,9-HxCDF	16.7	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,7,8-PeCDD	52.3	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	1,2,3,7,8-PeCDF	6.66	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	2,3,4,6,7,8-HxCDF	142	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	2,3,4,7,8-PeCDF	21.7	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	2,3,7,8-TCDD	14	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	2,3,7,8-TCDF	4.92	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	OCDD	123000	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	OCDF	5320	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	TCDD TEQ (ND = 0)	349.537	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	Total HpCDD	19700	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	Total HpCDF	10800	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	Total HxCDD	2870	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	Total HxCDF	4200	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	Total PeCDD	288	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	Total PeCDF	620	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	Total TCDD	35.5	ng/kg		36.7	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	1613	Total TCDF	154	ng/kg		155	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-02	B5DF11	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	8082	Aroclor 1016	200	ug/kg	U	200	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-02	B5PP14	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	8082	Aroclor 1221	200	ug/kg	U	200	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-02	B5PP14	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	8082	Aroclor 1232	200	ug/kg	U	200	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-02	B5PP14	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	8082	Aroclor 1242	200	ug/kg	U	200	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-02	B5PP14	268003.396	1787587.15		MWH	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
MJ724	NCBS19S01	8082	Aroclor 1248	200	ug/kg	U	200	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-02	B5PP14	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	8082	Aroclor 1254	200	ug/kg	U	200	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-02	B5PP14	268003.396	1787587.15		MWH	yes	
MJ724	NCBS19S01	8082	Aroclor 1260	200	ug/kg	U	200	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-02	B5PP14	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,4,6,7,8-HpCDD	657	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,4,6,7,8-HpCDF	94.9	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,4,7,8,9-HpCDF	9.41	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,4,7,8-HxCDD	3.96	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,4,7,8-HxCDF	3.23	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,6,7,8-HxCDD	23.5	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,6,7,8-HxCDF	1.85	ng/kg	J		Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,7,8,9-HxCDD	6.5	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,7,8,9-HxCDF	0.856	ng/kg	J		Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,7,8-PeCDD	1.7	ng/kg	J		Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	1,2,3,7,8-PeCDF	0.218	ng/kg	J		Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	2,3,4,6,7,8-HxCDF	5.78	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	2,3,4,7,8-PeCDF	0.552	ng/kg	J		Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	2,3,7,8-TCDD	0.394	ng/kg	UJ	0.394	Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	2,3,7,8-TCDF	0.0403	ng/kg	U	0.0403	Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	OCDD	6400	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	OCDF	267	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	TCDD TEQ (ND = 0)	14.8343	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	Total HpCDD	1190	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	Total HpCDF	527	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	Total HxCDD	146	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	Total HxCDF	216	ng/kg	J		Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	Total PeCDD	8.42	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	Total PeCDF	26.1	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	Total TCDD	0.498	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ727	NCBS19S02	1613	Total TCDF	2.29	ng/kg			Soil	4/10/2006	2.5	Primary Sample	IPD2761	no		ALTA	IPD2761-03	B5DF12	268003.396	1787587.15		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,4,6,7,8-HpCDD	204	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,4,6,7,8-HpCDF	26.5	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,4,7,8,9-HpCDF	2.08	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,4,7,8-HxCDD	1.4	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,4,7,8-HxCDF	0.769	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,6,7,8-HxCDD	6.54	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,6,7,8-HxCDF	0.639	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,7,8,9-HxCDD	2.81	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,7,8,9-HxCDF	0.225	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,7,8-PeCDD	0.588	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	1,2,3,7,8-PeCDF	0.103	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	2,3,4,6,7,8-HxCDF	1.21	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	2,3,4,7,8-PeCDF	0.35	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	2,3,7,8-TCDD	0.269	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	2,3,7,8-TCDF	0.237	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	OCDD	2300	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	OCDF	75.9	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	TCDD TEQ (ND = 0)	4.98354	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	Total HpCDD	391	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	Total HpCDF	110	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	Total HxCDD	44.6	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	Total HxCDF	39	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	Total PeCDD	3.27	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	Total PeCDF	8.56	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	Total TCDD	0.573	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ725	NCBS20S01	1613	Total TCDF	3.21	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-01	B5DF12	267987.981	1787597.52		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,4,6,7,8-HpCDD	22100	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,4,6,7,8-HpCDF	5680	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,4,7,8,9-HpCDF	486	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,4,7,8-HxCDD	169	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,4,7,8-HxCDF	150	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,6,7,8-HxCDD	1210	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,6,7,8-HxCDF	106	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,7,8,9-HxCDD	287	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,7,8,9-HxCDF	33.9	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	1,2,3,7,8-PeCDD	78.1	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
MJ726	NCBS21S01	1613	1,2,3,7,8-PeCDF	8.38	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	2,3,4,6,7,8-HxCDF	275	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	2,3,4,7,8-PeCDF	30.8	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	2,3,7,8-TCDD	19.8	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	2,3,7,8-TCDF	5.44	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	OCDD	295000	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	OCDF	14700	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	TCDD TEQ (ND = 0)	650.983	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	Total HpCDD	37000	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	Total HpCDF	27200	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	Total HxCDD	5820	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	Total HxCDF	10500	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	Total PeCDD	394	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	Total PeCDF	1350	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	Total TCDD	44	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ726	NCBS21S01	1613	Total TCDF	171	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-02	B5DF12	268008.723	1787584.89		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,4,6,7,8-HpCDD	4510	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,4,6,7,8-HpCDF	537	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,4,7,8,9-HpCDF	49.9	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,4,7,8-HxCDD	34	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,4,7,8-HxCDF	16.1	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,6,7,8-HxCDD	160	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,6,7,8-HxCDF	12.9	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,7,8,9-HxCDD	65.6	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,7,8,9-HxCDF	3.49	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,7,8-PeCDD	13.8	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	1,2,3,7,8-PeCDF	1.37	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	2,3,4,6,7,8-HxCDF	28.5	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	2,3,4,7,8-PeCDF	3.93	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	2,3,7,8-TCDD	5.11	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	2,3,7,8-TCDF	1.03	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	OCDD	52700	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	OCDF	1500	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	TCDD TEQ (ND = 0)	109.4945	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	Total HpCDD	8200	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	Total HpCDF	2550	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	Total HxCDD	850	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	Total HxCDF	841	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	Total PeCDD	64.3	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	Total PeCDF	103	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	Total TCDD	9.26	ng/kg		9.8	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	1613	Total TCDF	29.2	ng/kg		29.8	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-07	B5DF11	268049.632	1787862.39		MWH	yes	
MJ729	NCBS22S01	6020	Lead	14	mg/kg		0.023	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-07	B5MT21	268049.632	1787862.39		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,4,6,7,8-HpCDD	921	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,4,6,7,8-HpCDF	143	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,4,7,8,9-HpCDF	12.3	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,4,7,8-HxCDD	6.34	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,4,7,8-HxCDF	3.46	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,6,7,8-HxCDD	29.5	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,6,7,8-HxCDF	2.94	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,7,8,9-HxCDD	11.8	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,7,8,9-HxCDF	0.96	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,7,8-PeCDD	2.27	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	1,2,3,7,8-PeCDF	0.377	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	2,3,4,6,7,8-HxCDF	6.58	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	2,3,4,7,8-PeCDF	0.951	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	2,3,7,8-TCDD	0.596	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	2,3,7,8-TCDF	0.36	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	OCDD	10600	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	OCDF	384	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	TCDD TEQ (ND = 0)	21.41575	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	Total HpCDD	1580	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	Total HpCDF	631	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	Total HxCDD	153	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	Total HxCDF	189	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
MJ730	NCBS23S01	1613	Total PeCDD	12	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	Total PeCDF	19.6	ng/kg		21	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	Total TCDD	1.08	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	1613	Total TCDF	7.5	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		ALTA	IPD1011-08	B5DF11	268035.202	1787871.22		MWH	yes	
MJ730	NCBS23S01	6020	Lead	11	mg/kg		0.023	Soil	4/10/2006	0.5	Primary Sample	IPD1011	no		DELMAR	IPD1011-08	B5MT21	268035.202	1787871.22		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,4,6,7,8-HpCDD	414	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,4,6,7,8-HpCDF	43.2	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,4,7,8,9-HpCDF	4.3	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,4,7,8-HxCDD	3.02	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,4,7,8-HxCDF	1.45	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,6,7,8-HxCDD	12.3	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,6,7,8-HxCDF	1.35	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,7,8,9-HxCDD	5.85	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,7,8,9-HxCDF	0.432	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,7,8-PeCDD	1.1	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	1,2,3,7,8-PeCDF	0.187	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	2,3,4,6,7,8-HxCDF	2.8	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	2,3,4,7,8-PeCDF	0.571	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	2,3,7,8-TCDD	0.385	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	2,3,7,8-TCDF	0.246	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	OCDD	4620	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	OCDF	104	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	TCDD TEQ (ND = 0)	9.61205	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	Total HpCDD	792	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	Total HpCDF	167	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	Total HxCDD	88.2	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	Total HxCDF	72.6	ng/kg	J		Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	Total PeCDD	5.99	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	Total PeCDF	14.3	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	Total TCDD	0.749	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ732	NCBS24S01	1613	Total TCDF	3.5	ng/kg			Soil	4/10/2006	0.5	Primary Sample	IPD2761	no		ALTA	IPD2761-05	B5DF12	268055.526	1787860.96		MWH	yes	
MJ740	NCBS26S01	6020	Silver	0.34	mg/kg		0.024	Soil	4/11/2006	0.5	Primary Sample	IPD1108	no		DELMAR	IPD1108-02	B5MT22	268189.802	1787404.8		MWH	yes	
MJ741	NCBS27S01	6020	Silver	0.026	mg/kg		0.024	Soil	4/11/2006	0.5	Primary Sample	IPD1108	no		DELMAR	IPD1108-03	B5MT22	268271.854	1787260.93		MWH	yes	
MJ742	NCBS28S01	6020	Silver	0.061	mg/kg		0.023	Soil	4/11/2006	0.5	Primary Sample	IPD1108	no		DELMAR	IPD1108-04	B5MT22	268225.164	1787178.1		MWH	yes	
MJ743	NCBS29S01	6020	Silver	0.15	mg/kg		0.024	Soil	4/11/2006	0.5	Primary Sample	IPD1108	no		DELMAR	IPD1108-05	B5MT22	268111.522	1787104.09		MWH	yes	
RF713	NCSS01S01	6010	Antimony	10	mg/kg	UJ	10	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Barium	970	mg/kg		1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Beryllium	0.5	mg/kg	U	0.5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Cadmium	1	mg/kg		1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Chromium	29	mg/kg		2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Cobalt	6	mg/kg		2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Copper	27	mg/kg		2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Lead	77	mg/kg		5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Molybdenum	10	mg/kg	U	10	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Nickel	11	mg/kg		5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Silver	150	mg/kg		1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Vanadium	24	mg/kg		2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	6010	Zinc	3400	mg/kg	J	1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	7060	Arsenic	5	mg/kg	U	5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	7740	Selenium	5	mg/kg	U	5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	7841	Thallium	5	mg/kg	U	5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400MT16	268130	1787259		OGDEN	yes	
RF713	NCSS01S01	9045	pH	7.4	pH units	J	0.1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-001	T400WC17	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,4,6,7,8-HpCDD	3300	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,4,6,7,8-HpCDF	560	ng/kg	UJ	560	Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,4,7,8,9-HpCDF	63	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,4,7,8-HxCDD	7.9	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,4,7,8-HxCDF	44	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,6,7,8-HxCDD	56	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,6,7,8-HxCDF	26	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,7,8,9-HxCDD	11	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,7,8,9-HxCDF	15	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,7,8-PeCDD	4.8	ng/kg	U	4.8	Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	1,2,3,7,8-PeCDF	9.4	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	2,3,4,6,7,8-HxCDF	22	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
RS888	NCSS01S02	8290	2,3,4,7,8-PeCDF	18	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	2,3,7,8-TCDD	0.98	ng/kg	U	0.98	Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	2,3,7,8-TCDF	10	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	OCDD	40000	ng/kg	J		Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	OCDF	840	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	TCDD TEQ (ND = 0)	66.374	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	Total HpCDD	16000	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	Total HpCDF	2700	ng/kg	J		Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	Total HxCDD	610	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	Total HxCDF	810	ng/kg	J		Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	Total PeCDD	73	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	Total PeCDF	160	ng/kg	J		Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	Total TCDD	110	ng/kg			Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8290	Total TCDF	95	ng/kg	J		Soil	9/22/1999	0	Primary Sample	L9903979	no		ALTA	L9903979-011	T500DF7	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Acenaphthene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Acenaphthylene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Anthracene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Benzo(a)anthracene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Benzo(a)pyrene	43	ug/kg		30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Benzo(b)fluoranthene	65	ug/kg		30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Benzo(g,h,i)perylene	31	ug/kg		30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Benzo(k)fluoranthene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	bis(2-Ethylhexyl)phthalate	101	ug/kg	U	101	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Chrysene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Dibenzo(a,h)anthracene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Diethylphthalate	101	ug/kg	U	101	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Di-n-butyl phthalate	101	ug/kg	U	101	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Fluoranthene	36	ug/kg		30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Fluorene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Indeno(1,2,3-cd)pyrene	53	ug/kg		30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Naphthalene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	N-nitrosodimethylamine	2	ug/kg	U	2	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	N-nitrosodiphenylamine	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Phenanthrene	30	ug/kg	U	30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RS888	NCSS01S02	8270 SIM	Pyrene	43	ug/kg		30	Soil	9/22/1999	0	Primary Sample	L9903979	no		CAS	L9903979-011	T500PA6	268130	1787259		OGDEN	yes	
RF714	NCSS02S01	6010	Antimony	10	mg/kg	UJ	10	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Barium	1000	mg/kg		1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Beryllium	0.5	mg/kg	U	0.5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Cadmium	1	mg/kg	U	1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Chromium	16	mg/kg		2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Cobalt	6	mg/kg		2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Copper	17	mg/kg		2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Lead	40	mg/kg		5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Molybdenum	10	mg/kg	U	10	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Nickel	11	mg/kg		5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Silver	110	mg/kg		1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Vanadium	28	mg/kg		2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	6010	Zinc	3200	mg/kg	J	1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	7060	Arsenic	5	mg/kg	U	5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	7471	Mercury	0.2	mg/kg	U	0.2	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	7740	Selenium	5	mg/kg	U	5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	7841	Thallium	5	mg/kg	U	5	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400MT16	268142.125	1787254.87		OGDEN	yes	
RF714	NCSS02S01	9045	pH	6.7	pH units	J	0.1	Soil	10/28/1997	0	Primary Sample	L9703679	no		CAS	L9703679-002	T400WC17	268142.125	1787254.87		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,4,6,7,8-HpCDD	320	ng/kg		0.74	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,4,6,7,8-HpCDF	110	ng/kg	UJ	110	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,4,7,8,9-HpCDF	7.4	ng/kg	J	1.2	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,4,7,8-HxCDD	0.96	ng/kg	U	0.96	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,4,7,8-HxCDF	7.5	ng/kg	J	0.55	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,6,7,8-HxCDD	11	ng/kg	J	1.3	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,6,7,8-HxCDF	9.2	ng/kg	UJ	9.2	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,7,8,9-HxCDD	3.2	ng/kg	J	1.2	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,7,8,9-HxCDF	3.7	ng/kg	J	0.89	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,7,8-PeCDD	0.55	ng/kg	U	0.55	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	1,2,3,7,8-PeCDF	1.7	ng/kg	UJ	1.7	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	2,3,4,6,7,8-HxCDF	4.2	ng/kg	J	0.81	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
RJ011	NCSS03S01	8290	2,3,4,7,8-PeCDF	3.3	ng/kg	J	0.7	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	2,3,7,8-TCDD	1.3	ng/kg	U	1.3	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	2,3,7,8-TCDF	1.9	ng/kg	J	0.45	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	OCDD	3900	ng/kg		2.6	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	OCDF	120	ng/kg		1.9	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	TCDD TEQ (ND = 0)	8.476	ng/kg			Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	Total HpCDD	610	ng/kg		0.74	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	Total HpCDF	180	ng/kg		1	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	Total HxCDD	89	ng/kg		1.1	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	Total HxCDF	150	ng/kg		0.7	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	Total PeCDD	4.6	ng/kg	J	0.55	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	Total PeCDF	9.2	ng/kg	J	0.58	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	Total TCDD	6.6	ng/kg		1.3	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ011	NCSS03S01	8290	Total TCDF	16	ng/kg		0.45	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140415-503	T700DF18	268075.469	1787300.25		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,4,6,7,8-HpCDD	17	ng/kg		1.6	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,4,6,7,8-HpCDF	6.6	ng/kg	UJ	6.6	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,4,7,8,9-HpCDF	0.92	ng/kg	U	0.92	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,4,7,8-HxCDD	1.7	ng/kg	U	1.7	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,4,7,8-HxCDF	0.4	ng/kg	U	0.4	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,6,7,8-HxCDD	1.4	ng/kg	U	1.4	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,6,7,8-HxCDF	0.79	ng/kg	U	0.79	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,7,8,9-HxCDD	1.2	ng/kg	U	1.2	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,7,8,9-HxCDF	0.6	ng/kg	U	0.6	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,7,8-PeCDD	0.58	ng/kg	U	0.58	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	1,2,3,7,8-PeCDF	0.86	ng/kg	U	0.86	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	2,3,4,6,7,8-HxCDF	0.64	ng/kg	U	0.64	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	2,3,4,7,8-PeCDF	0.44	ng/kg	U	0.44	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	2,3,7,8-TCDD	0.79	ng/kg	U	0.79	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	2,3,7,8-TCDF	0.46	ng/kg	U	0.46	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	OCDD	230	ng/kg		3.3	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	OCDF	19	ng/kg	J	2.3	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	TCDD TEQ (ND = 0)	0.1949	ng/kg			Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	Total HpCDD	41	ng/kg		1.2	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	Total HpCDF	14	ng/kg	J	0.88	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	Total HxCDD	1.5	ng/kg	U	1.5	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	Total HxCDF	0.61	ng/kg	U	0.61	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	Total PeCDD	0.58	ng/kg	U	0.58	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	Total PeCDF	0.65	ng/kg	U	0.65	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	Total TCDD	0.79	ng/kg	U	0.79	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ012	NCSS04S01	8290	Total TCDF	0.46	ng/kg	U	0.46	Soil	6/29/2000	0	Primary Sample	RJ503	no		PACE	2140423-503	T700DF18	268157.969	1787326.37		OGDEN	yes	
RJ013	NCSS05S01	7471A	Mercury	0.08	mg/kg	UJ	0.08	Soil	6/29/2000	0	Primary Sample	RJ503	no		CEIMIC	200457-11	T700MT1	268087.344	1787414		OGDEN	yes	
MJ620	NCSS06S01	1613	1,2,3,4,6,7,8-HpCDD	1880	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,4,6,7,8-HpCDF	297	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,4,7,8,9-HpCDF	26.3	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,4,7,8-HxCDD	21.4	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,4,7,8-HxCDF	11.6	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,6,7,8-HxCDD	87.1	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,6,7,8-HxCDF	9.42	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,7,8,9-HxCDD	33.4	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,7,8,9-HxCDF	2.19	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,7,8-PeCDD	8.36	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	1,2,3,7,8-PeCDF	1.29	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	2,3,4,6,7,8-HxCDF	19	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	2,3,4,7,8-PeCDF	2.91	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	2,3,7,8-TCDD	2.81	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	2,3,7,8-TCDF	1.05	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	OCDD	20200	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	OCDF	743	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	TCDD TEQ (ND = 0)	55.3328	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	Total HpCDD	3510	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	Total HpCDF	1410	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	Total HxCDD	475	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	Total HxCDF	577	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	Total PeCDD	60.4	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	Total PeCDF	95.4	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
MJ620	NCSS06S01	1613	Total TCDD	12.5	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1613	Total TCDF	22	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-12	B5DF3	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Arsenic	2.4	mg/kg		0.27	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Barium	39	mg/kg	J	0.086	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Beryllium	0.23	mg/kg		0.043	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Cadmium	0.28	mg/kg	J	0.021	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Chromium	14	mg/kg	J	0.32	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Cobalt	3.5	mg/kg		0.021	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Copper	10	mg/kg	J	0.21	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Lead	41	mg/kg		0.021	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ734	NCSS06S01	6020	Lead	15	mg/kg		0.029	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-12	B5MT21	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Molybdenum	0.35	mg/kg	UJ	0.35	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Nickel	12	mg/kg	J	0.21	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Selenium	0.21	mg/kg	UJ	0.21	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Silver	0.26	mg/kg		0.021	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Thallium	0.13	mg/kg		0.11	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Vanadium	17	mg/kg	J	0.43	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6020	Zinc	54	mg/kg	J	0.54	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ734	NCSS06S01	8082	Aroclor 1016	210	ug/kg	U	210	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-12	B5PP14	268041.409	1787865.48		MWH	yes	
MJ734	NCSS06S01	8082	Aroclor 1221	210	ug/kg	U	210	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-12	B5PP14	268041.409	1787865.48		MWH	yes	
MJ734	NCSS06S01	8082	Aroclor 1232	210	ug/kg	U	210	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-12	B5PP14	268041.409	1787865.48		MWH	yes	
MJ734	NCSS06S01	8082	Aroclor 1242	210	ug/kg	U	210	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-12	B5PP14	268041.409	1787865.48		MWH	yes	
MJ734	NCSS06S01	8082	Aroclor 1248	210	ug/kg	U	210	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-12	B5PP14	268041.409	1787865.48		MWH	yes	
MJ734	NCSS06S01	8082	Aroclor 1254	210	ug/kg	U	210	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-12	B5PP14	268041.409	1787865.48		MWH	yes	
MJ734	NCSS06S01	8082	Aroclor 1260	210	ug/kg	U	210	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-12	B5PP14	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	1625C MOD.	N-nitrosodimethylamine	6.4	ug/kg	U	6.4	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5ND1	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6010B	Aluminum	6900	mg/kg		5.4	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	6010B	Boron	5.6	mg/kg	UJ	5.6	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	7471A	Mercury	0.015	mg/kg	UJ	0.015	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-12	B5MT11	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	1-Methylnaphthalene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	2-Methylnaphthalene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Acenaphthene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Acenaphthylene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Anthracene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Benzo(a)anthracene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Benzo(a)pyrene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Benzo(b)fluoranthene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Benzo(g,h,i)perylene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Benzo(k)fluoranthene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Chrysene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Dibenzo(a,h)anthracene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Fluoranthene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Fluorene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Indeno(1,2,3-cd)pyrene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Naphthalene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Phenanthrene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ620	NCSS06S01	8270C SIM	Pyrene	22	ug/kg	U	22	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-12	B5PA2	268041.409	1787865.48		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,4,6,7,8-HpCDD	2420	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,4,6,7,8-HpCDF	380	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,4,7,8,9-HpCDF	36.1	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,4,7,8-HxCDD	22.2	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,4,7,8-HxCDF	13.4	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,6,7,8-HxCDD	98.8	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,6,7,8-HxCDF	10.4	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,7,8,9-HxCDD	38.5	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,7,8,9-HxCDF	2.55	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,7,8-PeCDD	9.24	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	1,2,3,7,8-PeCDF	1.47	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	2,3,4,6,7,8-HxCDF	24.3	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	2,3,4,7,8-PeCDF	4.35	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	2,3,7,8-TCDD	2.92	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	2,3,7,8-TCDF	2.2	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	OCDD	28000	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	OCDF	1030	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	TCDD TEQ (ND = 0)	66.9075	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
MJ619	NCSS07S01	1613	Total HpCDD	4370	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	Total HpCDF	1650	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	Total HxCDD	550	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	Total HxCDF	682	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	Total PeCDD	51.5	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	Total PeCDF	111	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	Total TCDD	6.39	ng/kg		6.62	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1613	Total TCDF	31.5	ng/kg		32.6	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-11	B5DF3	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Arsenic	1.6	mg/kg		0.28	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Barium	52	mg/kg	J	0.091	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Beryllium	0.33	mg/kg		0.045	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Cadmium	0.53	mg/kg	J	0.023	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Chromium	13	mg/kg	J	0.34	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Cobalt	3.4	mg/kg		0.023	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Copper	12	mg/kg	J	0.23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Lead	16	mg/kg		0.023	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Molybdenum	0.33	mg/kg	UJ	0.33	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Nickel	8.9	mg/kg	J	0.23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Selenium	0.23	mg/kg	UJ	0.23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Silver	0.47	mg/kg		0.023	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Thallium	0.17	mg/kg		0.11	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Vanadium	19	mg/kg	J	0.45	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6020	Zinc	83	mg/kg	J	0.57	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ728	NCSS07S01	8082	Aroclor 1016	230	ug/kg	U	230	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-06	B5PP14	267998.379	1787592.73		MWH	yes	
MJ728	NCSS07S01	8082	Aroclor 1221	230	ug/kg	U	230	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-06	B5PP14	267998.379	1787592.73		MWH	yes	
MJ728	NCSS07S01	8082	Aroclor 1232	230	ug/kg	U	230	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-06	B5PP14	267998.379	1787592.73		MWH	yes	
MJ728	NCSS07S01	8082	Aroclor 1242	230	ug/kg	U	230	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-06	B5PP14	267998.379	1787592.73		MWH	yes	
MJ728	NCSS07S01	8082	Aroclor 1248	230	ug/kg	U	230	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-06	B5PP14	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8082	Aroclor 1254	71	ug/kg	J	57	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5PP3	267998.379	1787592.73		MWH	yes	
MJ728	NCSS07S01	8082	Aroclor 1254	230	ug/kg	U	230	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-06	B5PP14	267998.379	1787592.73		MWH	yes	
MJ728	NCSS07S01	8082	Aroclor 1260	230	ug/kg	U	230	Soil	4/10/2006	0	Primary Sample	IPD1011	no		DELMAR	IPD1011-06	B5PP14	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	1625C MOD.	N-nitrosodimethylamine	6.8	ug/kg	U	6.8	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5ND1	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6010B	Aluminum	8700	mg/kg		5.7	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	6010B	Boron	5.8	mg/kg	UJ	5.8	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	7471A	Mercury	0.055	mg/kg		0.0034	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-11	B5MT11	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	1-Methylnaphthalene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	2-Methylnaphthalene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Acenaphthene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Acenaphthylene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Anthracene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Benzo(a)anthracene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Benzo(a)pyrene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Benzo(b)fluoranthene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Benzo(g,h,i)perylene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Benzo(k)fluoranthene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Chrysene	27	ug/kg		23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Dibenzo(a,h)anthracene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Fluoranthene	28	ug/kg		23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Fluorene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Indeno(1,2,3-cd)pyrene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Naphthalene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Phenanthrene	23	ug/kg	U	23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ619	NCSS07S01	8270C SIM	Pyrene	29	ug/kg		23	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-11	B5PA2	267998.379	1787592.73		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,4,6,7,8-HpCDD	457	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,4,6,7,8-HpCDF	82	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,4,7,8,9-HpCDF	7.23	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,4,7,8-HxCDD	5.18	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,4,7,8-HxCDF	3.6	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,6,7,8-HxCDD	19.2	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,6,7,8-HxCDF	2.64	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,7,8,9-HxCDD	7.62	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,7,8,9-HxCDF	0.66	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,7,8-PeCDD	2.17	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	1,2,3,7,8-PeCDF	0.455	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	2,3,4,6,7,8-HxCDF	5.11	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
MJ621	NCSS08S01	1613	2,3,4,7,8-PeCDF	1.31	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	2,3,7,8-TCDD	0.543	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	2,3,7,8-TCDF	0.982	ng/kg	J		Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	OCDD	5160	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	OCDF	231	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	TCDD TEQ (ND = 0)	13.89135	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	Total HpCDD	892	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	Total HpCDF	334	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	Total HxCDD	112	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	Total HxCDF	139	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	Total PeCDD	10.6	ng/kg		11.9	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	Total PeCDF	24.2	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	Total TCDD	0.755	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1613	Total TCDF	10.7	ng/kg			Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		ALTA	IPB1429-13	B5DF3	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Arsenic	2.2	mg/kg		0.3	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Barium	67	mg/kg	J	0.096	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Beryllium	0.39	mg/kg		0.048	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Cadmium	0.34	mg/kg	J	0.024	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Chromium	15	mg/kg	J	0.36	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Cobalt	4.2	mg/kg		0.024	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Copper	10	mg/kg	J	0.24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Lead	19	mg/kg		0.024	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Molybdenum	0.41	mg/kg	UJ	0.41	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Nickel	10	mg/kg	J	0.24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Selenium	0.24	mg/kg	UJ	0.24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Silver	0.45	mg/kg		0.024	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Thallium	0.21	mg/kg		0.12	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Vanadium	24	mg/kg	J	0.48	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6020	Zinc	67	mg/kg	J	0.6	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	1625C MOD.	N-nitrosodimethylamine	7.2	ug/kg	U	7.2	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5ND1	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6010B	Aluminum	11000	mg/kg		6	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	6010B	Boron	6.3	mg/kg	UJ	6.3	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	7471A	Mercury	0.037	mg/kg		0.0036	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		DELMAR	IPB1429-13	B5MT11	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	1-Methylnaphthalene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	2-Methylnaphthalene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Acenaphthene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Acenaphthylene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Anthracene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Benzo(a)anthracene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Benzo(a)pyrene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Benzo(b)fluoranthene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Benzo(g,h,i)perylene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Benzo(k)fluoranthene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Chrysene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Dibenzo(a,h)anthracene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Fluoranthene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Fluorene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Indeno(1,2,3-cd)pyrene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Naphthalene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Phenanthrene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
MJ621	NCSS08S01	8270C SIM	Pyrene	24	ug/kg	U	24	Soil	2/14/2006	0.5	Primary Sample	IPB1429	no		CEL	IPB1429-13	B5PA2	267720.869	1787966.25		MWH	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8015	Hydrocarbons	5	mg/kg	U	5	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200TF4	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	1,1,1-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	1,1,2,2-Tetrachloroethane	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	1,1,2-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	1,1-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	1,1-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	1,2-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	1,2-Dichloropropane	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	2-Butanone	500	ug/kg	U	500	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	2-Chloroethyl vinyl ether	500	ug/kg	U	500	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	2-Hexanone	500	ug/kg	U	500	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	4-Methyl-2-pentanone	500	ug/kg	U	500	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Acetone	500	ug/kg	U	500	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Benzene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Bromodichloromethane	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Bromoform	300	ug/kg	U	300	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Bromomethane	500	ug/kg	U	500	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Carbon disulfide	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Carbon tetrachloride	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Chlorobenzene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Chloroethane	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Chloroform	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Chloromethane	500	ug/kg	U	500	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	cis-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Dibromochloromethane	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Dichlorobenzenes	50	ug/kg	UJ	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Ethylbenzene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Methylene chloride	300	ug/kg	U	300	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Styrene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Tetrachloroethene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Toluene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	trans-1,2-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	trans-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Trichloroethene	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Vinyl acetate	500	ug/kg	U	500	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Vinyl chloride	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8240	Xylenes (total)	50	ug/kg	U	50	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	1,2,4-Trichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	1,2-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	1,3-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	1,4-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2,4,5-Trichlorophenol	850	ug/kg	U	850	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2,4,6-Trichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2,4-Dichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2,4-Dimethylphenol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2,4-Dinitrophenol	850	ug/kg	U	850	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2,4-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2,6-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2-Chloronaphthalene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2-Chlorophenol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2-Methylnaphthalene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	2-Nitrophenol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	3,3'-Dichlorobenzidine	340	ug/kg	U	340	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	3-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	4,6-Dinitro-2-methylphenol	850	ug/kg	U	850	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	4-Bromophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	4-Chloro-3-methylphenol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	4-Chloroaniline	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	4-Chlorophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	4-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	4-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	4-Nitrophenol	850	ug/kg	U	850	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Acenaphthene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Acenaphthylene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Aniline	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Anthracene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Benzidine	1700	ug/kg	U	1700	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Benzo(a)anthracene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Benzo(a)pyrene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Benzo(b)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Benzo(g,h,i)perylene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Benzo(k)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Benzoic Acid	850	ug/kg	U	850	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Benzyl alcohol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	bis(2-Chloroethoxy)methane	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	bis(2-Chloroethyl)ether	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	bis(2-Chloroisopropyl) ether	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	bis(2-Ethylhexyl)phthalate	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Butylbenzylphthalate	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Chrysene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Dibenzo(a,h)anthracene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Dibenzofuran	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Diethylphthalate	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Dimethyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Di-n-butyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Di-n-octyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Fluorene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Hexachlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Hexachlorobutadiene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Hexachlorocyclopentadiene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Hexachloroethane	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Indeno(1,2,3-cd)pyrene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Isophorone	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Naphthalene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Nitrobenzene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	N-nitrosodimethylamine	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	N-nitrosodi-n-propylamine	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	N-nitrosodiphenylamine	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Pentachlorophenol	850	ug/kg	U	850	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Phenanthrene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Phenol	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	8270	Pyrene	170	ug/kg	U	170	Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 1.5-2.0	NEWCONS1 1.5-2.0	9045	pH	7.35	pH units	J		Soil	8/24/1988	2	Primary Sample	NEW YARD	no		ATI	80831707	T200WC2	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8015	Hydrocarbons	5	mg/kg	U	5	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200TF4	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	1,1,1-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	1,1,2,2-Tetrachloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	1,1,2-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	1,1-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	1,1-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	1,2-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	1,2-Dichloropropane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	2-Butanone	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	2-Chloroethyl vinyl ether	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	2-Hexanone	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	4-Methyl-2-pentanone	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Acetone	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Benzene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Bromodichloromethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Bromoform	300	ug/kg	U	300	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Bromomethane	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Carbon disulfide	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Carbon tetrachloride	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Chlorobenzene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Chloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Chloroform	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Chloromethane	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	cis-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Dibromochloromethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Dichlorobenzenes	50	ug/kg	UJ	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Ethylbenzene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Methylene chloride	300	ug/kg	U	300	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Styrene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Tetrachloroethene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Toluene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	trans-1,2-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	trans-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Trichloroethene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Vinyl acetate	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Vinyl chloride	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8240	Xylenes (total)	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200VO7	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	1,2,4-Trichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	1,2-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	1,3-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	1,4-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2,4,5-Trichlorophenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2,4,6-Trichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2,4-Dichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2,4-Dimethylphenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2,4-Dinitrophenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2,4-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2,6-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2-Chloronaphthalene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2-Chlorophenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2-Methylnaphthalene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	2-Nitrophenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	3,3'-Dichlorobenzidine	340	ug/kg	U	340	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	3-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	4,6-Dinitro-2-methylphenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	4-Bromophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	4-Chloro-3-methylphenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	4-Chloroaniline	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	4-Chlorophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	4-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	4-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	4-Nitrophenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Acenaphthene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Acenaphthylene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Aniline	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Anthracene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Benzidine	1700	ug/kg	U	1700	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Benzo(a)anthracene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Benzo(a)pyrene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Benzo(b)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Benzo(g,h,i)perylene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Benzo(k)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Benzoic Acid	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Benzyl alcohol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	bis(2-Chloroethoxy)methane	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	bis(2-Chloroethyl)ether	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	bis(2-Chloroisopropyl) ether	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	bis(2-Ethylhexyl)phthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Butylbenzylphthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Chrysene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Dibenzo(a,h)anthracene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Dibenzofuran	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Diethylphthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Dimethyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Di-n-butyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Di-n-octyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Fluorene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Hexachlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Hexachlorobutadiene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Hexachlorocyclopentadiene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Hexachloroethane	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Indeno(1,2,3-cd)pyrene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Isophorone	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Naphthalene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Nitrobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	N-nitrosodimethylamine	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	N-nitrosodi-n-propylamine	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	N-nitrosodiphenylamine	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Pentachlorophenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Phenanthrene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Phenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	8270	Pyrene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200SV5	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS1 3.5-4.0	NEWCONS1 3.5-4.0	9045	pH	6.55	pH units	J		Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831708	T200WC2	268087.188	1787680.37	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8015	Hydrocarbons	5	mg/kg	U	5	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200TF4	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	1,1,1-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	1,1,2,2-Tetrachloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	1,1,2-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	1,1-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	1,1-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	1,2-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	1,2-Dichloropropane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	2-Butanone	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	2-Chloroethyl vinyl ether	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	2-Hexanone	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	4-Methyl-2-pentanone	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Acetone	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Benzene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Bromodichloromethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Bromoform	300	ug/kg	U	300	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Bromomethane	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Carbon disulfide	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Carbon tetrachloride	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Chlorobenzene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Chloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Chloroform	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Chloromethane	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	cis-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Dibromochloromethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Dichlorobenzenes	50	ug/kg	UJ	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Ethylbenzene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Methylene chloride	300	ug/kg	U	300	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Styrene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Tetrachloroethene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Toluene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	trans-1,2-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	trans-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Trichloroethene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Vinyl acetate	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Vinyl chloride	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8240	Xylenes (total)	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	1,2,4-Trichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	1,2-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	1,3-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	1,4-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2,4,5-Trichlorophenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2,4,6-Trichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2,4-Dichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2,4-Dimethylphenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2,4-Dinitrophenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2,4-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2,6-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2-Chloronaphthalene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2-Chlorophenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2-Methylnaphthalene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	2-Nitrophenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	3,3'-Dichlorobenzidine	340	ug/kg	U	340	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	3-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	4,6-Dinitro-2-methylphenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	4-Bromophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	4-Chloro-3-methylphenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	4-Chloroaniline	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	4-Chlorophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	4-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	4-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	4-Nitrophenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Acenaphthene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Acenaphthylene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Aniline	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Anthracene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Benzidine	1700	ug/kg	U	1700	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Benzo(a)anthracene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Benzo(a)pyrene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Benzo(b)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Benzo(g,h,i)perylene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Benzo(k)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Benzoic Acid	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Benzyl alcohol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	bis(2-Chloroethoxy)methane	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	bis(2-Chloroethyl)ether	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	bis(2-Chloroisopropyl) ether	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	bis(2-Ethylhexyl)phthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Butylbenzylphthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Chrysene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Dibenzo(a,h)anthracene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Dibenzofuran	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Diethylphthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Dimethyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Di-n-butyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Di-n-octyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Fluorene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Hexachlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Hexachlorobutadiene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Hexachlorocyclopentadiene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Hexachloroethane	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Indeno(1,2,3-cd)pyrene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Isophorone	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Naphthalene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Nitrobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	N-nitrosodimethylamine	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	N-nitrosodi-n-propylamine	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	N-nitrosodiphenylamine	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Pentachlorophenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Phenanthrene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Phenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	8270	Pyrene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 1-1.5	NEWCONS2 1-1.5	9045	pH	6.93	pH units	J		Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831709	T200WC2	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8015	Hydrocarbons	5	mg/kg	U	5	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200TF4	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	1,1,1-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	1,1,2,2-Tetrachloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	1,1,2-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	1,1-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	1,1-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	1,2-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	1,2-Dichloropropane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	2-Butanone	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	2-Chloroethyl vinyl ether	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	2-Hexanone	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	4-Methyl-2-pentanone	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Acetone	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Benzene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Bromodichloromethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Bromoform	300	ug/kg	U	300	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Bromomethane	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Carbon disulfide	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Carbon tetrachloride	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Chlorobenzene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Chloroethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Chloroform	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Chloromethane	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	cis-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Dibromochloromethane	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Dichlorobenzenes	50	ug/kg	UJ	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Ethylbenzene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Methylene chloride	300	ug/kg	U	300	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Styrene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Tetrachloroethene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Toluene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	trans-1,2-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	trans-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Trichloroethene	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Vinyl acetate	500	ug/kg	U	500	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Vinyl chloride	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8240	Xylenes (total)	50	ug/kg	U	50	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200VO7	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	1,2,4-Trichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	1,2-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	1,3-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	1,4-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2,4,5-Trichlorophenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2,4,6-Trichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2,4-Dichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2,4-Dimethylphenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2,4-Dinitrophenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2,4-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2,6-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2-Chloronaphthalene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2-Chlorophenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2-Methylnaphthalene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	2-Nitrophenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	3,3'-Dichlorobenzidine	340	ug/kg	U	340	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	3-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	4,6-Dinitro-2-methylphenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	4-Bromophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	4-Chloro-3-methylphenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	4-Chloroaniline	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	4-Chlorophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	4-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	4-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	4-Nitrophenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Acenaphthene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Acenaphthylene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Aniline	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Anthracene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Benzidine	1700	ug/kg	U	1700	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Benzo(a)anthracene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Benzo(a)pyrene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Benzo(b)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Benzo(g,h,i)perylene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Benzo(k)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Benzoic Acid	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Benzyl alcohol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	bis(2-Chloroethoxy)methane	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	bis(2-Chloroethyl)ether	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	bis(2-Chloroisopropyl) ether	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	bis(2-Ethylhexyl)phthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Butylbenzylphthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Chrysene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Dibenzo(a,h)anthracene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Dibenzofuran	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Diethylphthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Dimethyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Di-n-butyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Di-n-octyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Fluorene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Hexachlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Hexachlorobutadiene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Hexachlorocyclopentadiene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Hexachloroethane	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Indeno(1,2,3-cd)pyrene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Isophorone	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Naphthalene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Nitrobenzene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	N-nitrosodimethylamine	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	N-nitrosodi-n-propylamine	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	N-nitrosodiphenylamine	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Pentachlorophenol	850	ug/kg	U	850	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Phenanthrene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Phenol	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	8270	Pyrene	170	ug/kg	U	170	Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200SV5	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS2 3.5-4.0	NEWCONS2 3.5-4.0	9045	pH	6.81	pH units	J		Soil	8/24/1988	4	Primary Sample	NEW YARD	no		ATI	80831710	T200WC2	268110.719	1787655.13	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8015	Hydrocarbons	5	mg/kg	U	5	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200TF4	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	1,1,1-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	1,1,2,2-Tetrachloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	1,1,2-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	1,1-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	1,1-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	1,2-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	1,2-Dichloropropane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	2-Butanone	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	2-Chloroethyl vinyl ether	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	2-Hexanone	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	4-Methyl-2-pentanone	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Acetone	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Benzene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Bromodichloromethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Bromoform	300	ug/kg	U	300	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Bromomethane	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Carbon disulfide	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Carbon tetrachloride	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Chlorobenzene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Chloroethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Chloroform	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Chloromethane	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	cis-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Dibromochloromethane	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Dichlorobenzenes	50	ug/kg	UJ	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Ethylbenzene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Methylene chloride	300	ug/kg	U	300	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Styrene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Tetrachloroethene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Toluene	110	ug/kg			Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	trans-1,2-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	trans-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Trichloroethene	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Vinyl acetate	500	ug/kg	U	500	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Vinyl chloride	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8240	Xylenes (total)	50	ug/kg	U	50	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	1,2,4-Trichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	1,2-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	1,3-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	1,4-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2,4,5-Trichlorophenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2,4,6-Trichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2,4-Dichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2,4-Dimethylphenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2,4-Dinitrophenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2,4-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2,6-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2-Chloronaphthalene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2-Chlorophenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2-Methylnaphthalene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	2-Nitrophenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	3,3'-Dichlorobenzidine	340	ug/kg	U	340	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	3-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	4,6-Dinitro-2-methylphenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	4-Bromophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	4-Chloro-3-methylphenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	4-Chloroaniline	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	4-Chlorophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	4-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	4-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	4-Nitrophenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Acenaphthene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Acenaphthylene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Aniline	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Anthracene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Benzidine	1700	ug/kg	U	1700	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Benzo(a)anthracene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Benzo(a)pyrene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Benzo(b)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Benzo(g,h,i)perylene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Benzo(k)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Benzoic Acid	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Benzyl alcohol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	bis(2-Chloroethoxy)methane	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	bis(2-Chloroethyl)ether	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	bis(2-Chloroisopropyl) ether	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	bis(2-Ethylhexyl)phthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Butylbenzylphthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Chrysene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Dibenzo(a,h)anthracene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Dibenzofuran	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Diethylphthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Dimethyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Di-n-butyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Di-n-octyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Fluorene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Hexachlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Hexachlorobutadiene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Hexachlorocyclopentadiene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Hexachloroethane	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Indeno(1,2,3-cd)pyrene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Isophorone	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Naphthalene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Nitrobenzene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	N-nitrosodimethylamine	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	N-nitrosodi-n-propylamine	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	N-nitrosodiphenylamine	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Pentachlorophenol	850	ug/kg	U	850	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Phenanthrene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Phenol	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	8270	Pyrene	170	ug/kg	U	170	Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 1.0-1.5	NEWCONS3 1.0-1.5	9045	pH	5.84	pH units	J		Soil	8/24/1988	1.5	Primary Sample	NEW YARD	no		ATI	80831711	T200WC2	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8015	Hydrocarbons	5	mg/kg	U	5	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200TF4	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	1,1,1-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	1,1,2,2-Tetrachloroethane	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	1,1,2-Trichloroethane	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	1,1-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	1,1-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	1,2-Dichloroethane	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	1,2-Dichloropropane	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	2-Butanone	500	ug/kg	U	500	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	2-Chloroethyl vinyl ether	500	ug/kg	U	500	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	2-Hexanone	500	ug/kg	U	500	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	4-Methyl-2-pentanone	500	ug/kg	U	500	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Acetone	500	ug/kg	U	500	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Benzene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Bromodichloromethane	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Bromoform	300	ug/kg	U	300	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Bromomethane	500	ug/kg	U	500	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Carbon disulfide	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Carbon tetrachloride	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Chlorobenzene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Chloroethane	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Chloroform	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Chloromethane	500	ug/kg	U	500	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	cis-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Dibromochloromethane	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Dichlorobenzenes	50	ug/kg	UJ	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Ethylbenzene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Methylene chloride	300	ug/kg	U	300	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Styrene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Tetrachloroethene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Toluene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	trans-1,2-Dichloroethene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	trans-1,3-Dichloropropene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Trichloroethene	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Vinyl acetate	500	ug/kg	U	500	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Vinyl chloride	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8240	Xylenes (total)	50	ug/kg	U	50	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200VO7	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	1,2,4-Trichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	1,2-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	1,3-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	1,4-Dichlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2,4,5-Trichlorophenol	850	ug/kg	U	850	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2,4,6-Trichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2,4-Dichlorophenol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2,4-Dimethylphenol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2,4-Dinitrophenol	850	ug/kg	U	850	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2,4-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2,6-Dinitrotoluene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2-Chloronaphthalene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2-Chlorophenol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2-Methylnaphthalene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	2-Nitrophenol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	3,3'-Dichlorobenzidine	340	ug/kg	U	340	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	3-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	4,6-Dinitro-2-methylphenol	850	ug/kg	U	850	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	4-Bromophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	4-Chloro-3-methylphenol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	4-Chloroaniline	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	4-Chlorophenyl phenyl ether	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	4-Methylphenol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	4-Nitroaniline	850	ug/kg	U	850	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	4-Nitrophenol	850	ug/kg	U	850	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Acenaphthene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Acenaphthylene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Aniline	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Anthracene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Benzidine	1700	ug/kg	U	1700	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	

New Conservation Yard (SWMU 7.8)
Sampling and Analytical Results Summary
Santa Susana Field Laboratory

EPA Number	Sample Identification	Analytical Method	Analyte	Concentration	Units	Reviewer Qualifier	Detection Limit	Matrix	Collection Date	Depth (ft bgs)	Sample Type	SDG Number	Excavated	Contained or Transformer	Analytical Laboratory	Laboratory Sample Number	Validation Report Number	Northings	Eastings	Publication	Consultant	Included in Risk Assessment	Rationale for Risk Exclusion
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Benzo(a)anthracene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Benzo(a)pyrene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Benzo(b)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Benzo(g,h,i)perylene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Benzo(k)fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Benzoic Acid	850	ug/kg	U	850	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Benzyl alcohol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	bis(2-Chloroethoxy)methane	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	bis(2-Chloroethyl)ether	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	bis(2-Chloroisopropyl) ether	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	bis(2-Ethylhexyl)phthalate	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Butylbenzylphthalate	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Chrysene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Dibenzo(a,h)anthracene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Dibenzofuran	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Diethylphthalate	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Dimethyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Di-n-butyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Di-n-octyl phthalate	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Fluoranthene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Fluorene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Hexachlorobenzene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Hexachlorobutadiene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Hexachlorocyclopentadiene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Hexachloroethane	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Indeno(1,2,3-cd)pyrene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Isophorone	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Naphthalene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Nitrobenzene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	N-nitrosodimethylamine	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	N-nitrosodi-n-propylamine	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	N-nitrosodiphenylamine	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Pentachlorophenol	850	ug/kg	U	850	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Phenanthrene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Phenol	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	8270	Pyrene	170	ug/kg	U	170	Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200SV5	268070.625	1787629.37	GRC, May 89	GRC	yes	
NEWCONS3 3.3-3.8	NEWCONS3 3.3-3.8	9045	pH	6.34	pH units	J		Soil	8/24/1988	3.8	Primary Sample	NEW YARD	no		ATI	80831712	T200WC2	268070.625	1787629.37	GRC, May 89	GRC	yes	

Units
mg/kg = milligrams per kilograms
ng/kg = nanograms per kilograms
µg/kg = micrograms per kilogram

Reviewer Qualifier
U = not detected
J = estimated value

ft bgs = feet below ground surface
TEQ = Toxic Equivalency Quotient

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

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

Project: SSFL Group 6
Data Gap

Sampled: 02/13/06-02/14/06
Received: 02/14/06
Revised: 03/08/06 15:26

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 7 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 5°C, on ice and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	Results that fall between the MDL and RL are 'J' flagged.
SUBCONTRACTED:	Refer to the last page for specific subcontract laboratory information included in this report.
ADDITIONAL INFORMATION:	The report was revised to add a data qualifier to the QC for the NDMA water analysis.

LABORATORY ID	CLIENT ID	MATRIX
IPB1429-01	MJ608	Soil
IPB1429-03	MJ610	Soil
IPB1429-04	MJ611	Soil
IPB1429-05	MJ612	Soil
IPB1429-06	MJ614	Soil
IPB1429-07	MJ615	Water
IPB1429-08	MJ616	Soil
IPB1429-09	MJ617	Soil
IPB1429-10	MJ618	Soil
IPB1429-11	MJ619	Soil

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

LABORATORY ID	CLIENT ID	MATRIX
IPB1429-12	MJ620	Soil
IPB1429-13	MJ621	Soil
IPB1429-14	MJ622	Soil
IPB1429-16	MJ628	Soil
IPB1429-17	MJ629	Soil
IPB1429-18	MJ630	Soil
IPB1429-19	MJ631	Soil
IPB1429-20	MJ632	Water
IPB1429-21	MJ633	Soil
IPB1429-22	MJ634	Soil
IPB1429-23	MJ635	Soil

Reviewed By:

Michele Chamberlin

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Del Mar Analytical

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

CORRECTIVE ACTION REPORT

Department: Extractions
Method: EPA 1625C-CI Mod
QC Batch: 6B20118

Date: 03/03/2006
Matrix: Water

Identification and Definition of Problem:

The percent recoveries for NDMA in the LCS/LCSD and low-level LCS were above method acceptance limits and the reagent blank, BLK1, was contaminated at a level above the reporting limit.

Determination of the Cause of the Problem:

NDMA is known to be a contaminant in reagent water at low level.

Corrective Action Taken:

Insufficient sample volume was available for re-analysis. All results reported from this batch are potentially biased high and can be considered estimates only. The laboratory is currently investigating a means of eliminating the contamination.

Quality Assurance Approval:  Date: 03/06/2006 06:13 PM

Dave Dawes

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
L1	Laboratory Control Sample recovery was above method control limits.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M-HA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M-NR	No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
M-NR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
RL-1	Reporting limit raised due to sample matrix effects.
RL-4	Reporting limit raised due to insufficient sample volume.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
1613A/1613B	Soil		
1613A/1613B	Water		
Dry Weight	Soil	N/A	N/A
EDD + Level 4	Soil		
EDD	Soil		
EPA 160.3 MOD	Soil	N/A	N/A
EPA 1625C-CI Mod	Soil		
EPA 1625C-CI Mod	Water		
EPA 3510/8082	Water	X	X
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 6010B	Water	X	X
EPA 6020	Soil	X	X
EPA 6020	Water	X	X
EPA 7470A	Water	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8015 MOD.	Water	X	X
EPA 8270C	Soil	X	X
EPA 8270C	Water	X	X
Level 3	Soil		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Alta Analytical *NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413*
1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IPB1429-03, IPB1429-07, IPB1429-09, IPB1429-10, IPB1429-11, IPB1429-12, IPB1429-13

Analysis Performed: Level 4 + EDD
Samples: IPB1429-03

Calscience-SUB *California Cert #1230*
7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)
Samples: IPB1429-01, IPB1429-03, IPB1429-07, IPB1429-11, IPB1429-12, IPB1429-13

Analysis Performed: Dry Wt
Samples: IPB1429-01, IPB1429-03, IPB1429-11, IPB1429-12, IPB1429-13

Analysis Performed: Level 3 Data Package
Samples: IPB1429-01

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CHD

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL Group 6 Data Gap
Control Number: COC MJ608
Date 2/13/06 Page 1 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	-Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No.
QC Level:
TAT: Standard

Preservatives: Water sample: HNO_3, None

Sample ID	Description (for MWH use only)	SWMU	Depth (feet)	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	Ash	8260B	VOC	8015BM	TPH	8270CSIM PAHs NDMA mc 2/15/06	SVOC	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ608	NCBS07 S02	7.10	0.5	2/13/06	1345			X			X					X														HA			1
MJ609	NCBS07 S03		3					X								X			X													X	1
MJ610	NCBS07 S01		5					X								X			X											↓			1
MJ611	NCBS14 S01		0.5		1513			X														X						8 oz jar	G				1
MJ612	NCBS15 S01		0.5		1526			X														X						8 oz jar	G				1
~~MJ613~~	~~NCBS07 S04~~		~~10~~		~~1532~~			X								X			X										HA		X	1
MJ614	NCBS16 S01		0.5		1548			X														X						8 oz jar	G				1
MJ615	NCQW06 E01		—		1620				X							X			X			X							—	X			4
MJ616	NCBS17 S01		0.5	2-14-06	844			X														X								MC			1
MJ617	NCBS 12 S01		0.5		851			X											X											2/15/06			2
MJ618	NCBS10 S01		0.5		910			X											X														2
MJ619	NCBSS07 S01		0.5		932			X								X			X			X											2

Samplers Signature: BCB	Date 2/13/06	Time 1330
Relinquished By:	Date 2/14/06	Time 1610
Received By:	Date 2/14/06	Time 1610
Relinquished By:	Date 2/14/06	Time 1930
Received By (LAB):	Date 2/14/06	Time 19:30

White Copy:Original Yellow:Lab Copy Pink:Field Copy

VB

For Lab Use

Lab Number:

Comments:

Does COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC Seal intact: (Y) or N
Any other problems: Y or (N)
If any YES, MWH contacted: Y or N
Date Contacted: / /
Temperature °C 5

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL Group 6 Data Group
Control Number: COC MJ620
Date 2/14/06 Page 1 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No.
QC Level:
TAT: Standard

Preservatives: Water Samples: HNO_3, None

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product
MJ620	NCSS06 S01	7.10	0.5	2-14-06	938			X		
MJ621	NCSS08 S01	↓	0.5		1003			X		
MJ622	SRBS51 S70	AOC	0.5		/			X		
MJ623	SRBS54S01		0.5		1049			X		
MJ624	SRBS54S02		0.5		1050			X		
MJ625	SRBS 54S03		0.5		1100			X		
MJ626	SRBS 545 04		0.5		1109			X		
MJ627	SRBS54 S 05		2.5		1102			X		
MJ628	SRBS55S01		0.5		1130			X		
MJ629	SRBS56S01		0.5		1145			X		
MJ630	SRBS~~58~~ 58 S01		0.5		1323			X		
MJ631	SRBS 59 S01		0.5		1335			X		

Sample ID	8260B VOC	8015BM TPH	8270CSIM SVOC PAH + NDMA	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ620			X		X			X									G			2
MJ621			X		X			X									G			2
MJ622										X										0
MJ623										X							G		X	1
MJ624										X							G		X	1
MJ625										X							G		X	1
MJ626										X							G		X	1
MJ627										X							G		X	1
MJ628										X							G		/	1
MJ629										X							G			1
MJ630		X						X		X							G			2
MJ631		X						X		X							G			2

Samplers Signature: Bryan Burton	Date 2-14-06	Time 954
Relinquished By:	Date 2-14-06	Time 1610
Received By:	Date 2/14/06	Time 1610
Relinquished By:	Date 2/14/06	Time 1930
Received By (LAB):	Date 2/14/06	Time 19:30

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:
Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC Seal Intact: Y or N
Any other problems: Y or N
If any YES, MWH contacted: Y or N
Date Contacted: / /
Temperature °C 5

Comments:
MJ622 is a composite of MJ623-626.
Please homogenize MJ623-626 individually, then create the composite.
Hold individual samples pending result of composite.
Do not hold MJ628. - run for PCBs.

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL Group 6 Data Group
Control Number: COC MJ632
Date 2 / 14 / 06 Page 3 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No.
QC Level:
TAT: Standard

Preservatives: Water Samples: HNO3, None

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260B VOC	8015BM TPH	8270CSIM SVOC PAH	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ632	SRQW03 E01	~~AOC AK~~	—	2-14-06	1357				X			X								X										5 BG
MJ633	SRBS07 S01		0.5		1405			X										*							Bs		G			1
MJ634	SRBS07 S02		3		1428			X										*							Bs		G			1
MJ635	SRBS 60 S01		0.5		1508			X										*						8 oz jar			G			1
MJ636	SRBS 61 S02		~~0~~ 2 BB		1510			X										*						8 oz jar			G		X	1

Samplers Signature: Bryan Burton	Date 2-14-06	Time 1400
Relinquished By:	Date 2/14/06	Time 1610
Received By:	Date 2/14/06	Time 1610
Relinquished By:	Date 2/14/06	Time 1930
Received By (LAB):	Date 2/14/06	Time 19:30

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:
Does COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC Seal intact: (Y) or N
Any other problems: Y or (N)
If any YES, MWH contacted: Y or N
Date Contacted : / /
Temperature °C 5

Comments: * search for Ag, Se and Tl in MJ635 and MJ636.
Analyze MJ633 and MJ634 for Silver only

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date. 02/24/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ620	MJ622	SRBS51S70	2/14/06	PCB by Method 8082. Standard TAT.	Change MWH_ID to SRBS54S70. Same analysis.

The reason for these changes:

Incorrectly marked on COC form _____
Lack of sample volume _____
MWH office personnel require this change X
Other: Containers mislabeled _____

Thank you

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL G[illegible]
Control Number: COC MJ62C
Date 2/14/06 Page 2 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	[illegible]
Comment:	

Cooler No.
QC Level:
TAT: [illegible]

Preservatives: W[illegible] HNO[illegible]

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260B VOC	8015BM TPH	8270CSIM SVOC PAH	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ620	NCSS06S01	7.10	0.5	2/14/06	938			X					X		X			X								G			2
MJ621	NCSS08S01	↓	0.5		1003			X					X		X			X								G			2
MJ622	SRBS51S70	[illegible]	0.5		—			X												X									
MJ623	SRBS54S01		0.5		1049			X												X						G		X	1
MJ624	SRBS54S02		0.5		1050			X												X						G		X	1
MJ625	SRBS54S03		0.5		1100			X												X						G		X	1
MJ626	SRBS54S04		0.5		1109			X												X						G		X	1
MJ627	SRBS54S05		2.5		1102			X												X						G		X	1
MJ628	SRBS55S01		0.5		1130			X												X						G		X	1
MJ621	SRBS56S01		0.5		1145			X												X						G			1
[illegible]	[illegible]58S01		0.5		[illegible]			X				X						X		X						G			
[illegible]	SRBS59S01		0.5		1335			X				X						X		X						G			2

TB 2/23/06
54

Samplers Signature:	Date	Time
Brian Lunten	2/14/06	954
Relinquished By: [signature]	2/14/06	1610
Received By:		
Relinquished By:		
Received By (LAB):		

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:
Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC Seal intact: Y or N
Any other problems: Y or N
If any YES, MWH contacted: Y or N
Date Contacted: __/__/__
Temperature °C

Comments:
MJ622 is a composite of MJ623-626.
[illegible]
[illegible]
[illegible]
[illegible]
D[illegible] MJ628 - run for PCBs.

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date: 02/24/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ632	MJ636	SRBS61S02	2/14/06	Silver, Selenium, Thallium analysis. Standard TAT.	Change MWH_ID to SRBS60S02. Same analysis.

The reason for these changes:

Incorrectly marked on COC form _____
Lack of sample volume _____
MWH office personnel require this change X
Other: Containers mislabeled _____

Thank you

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL Group [illegible]
Control Number: COC MJ 6[illegible]2
Date 2 / 14 / 06 Page 3 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	[illegible]
Comment:	

Cooler No.
QC Level:
TAT: Standard

Preservatives: Water [illegible]; HNO3, N[illegible]

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260B VOC	8015BM TPH	8270CSIM SVOC PAH	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
											HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4, pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C				
MJ632	SRQW03 E01	[illegible]	—	2-14-06	1357				X			X								X									~~6~~ 5
MJ633	SRBS07 S01		0.5		1405			X										*								G			1
MJ634	SRBS07 S02		3		1428			X										*								G			1
MJ635	SRBS 60 S01		0.5		1508			X										*								G			1
MJ636	SRBS 61 S02		2		1510			X										*								G		X	1
	60																												

Samplers Signature: [illegible]	Date 2-14-06	Time 14:0[illegible]
Relinquished By: [illegible]	Date 2/14/06	Time 1610
Received By:	Date	Time
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:
Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC Seal intact: Y or N
Any other problems: Y or N
If any YES, MWH contacted: Y or N
Date Contacted: __/__/__
Temperature °C

Comments: * [illegible] Ag, Se and Tl in MJ635 and MJ636. [illegible] MJ633 and MJ634 [illegible]

ALTA

March 03, 2006

Alta Project I.D.: 27302

Ms. Michele Chamberlin
Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous and six soil samples received at Alta Analytical Laboratory on February 17, 2006 under your Project Name "IPB1429". These samples were homogenized as instructed on the chain-of-custody, and extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maier
Director of HRMS Services

Section I: Sample Inventory Report

Date Received: **2/17/2006**

Alta Lab. ID	Client Sample ID
27302-001	IPB1429-03
27302-002	IPB1429-07
27302-003	IPB1429-09
27302-004	IPB1429-10
27302-005	IPB1429-11
27302-006	IPB1429-12
27302-007	IPB1429-13

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated Detection Limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that corresponds to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

Del Mar Analytical

1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPB1429

SENDING LABORATORY:

Del Mar Analytical, Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:

Alta Analytical
1104 Windfield Way
El Dorado Hills, CA 95762
Phone :(916) 933-1640
Fax: (916) 673-0106

97302
0.3°C

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => Due Date:_____ Initials:_____

Analysis	Expiration	Comments
Sample ID: IPB1429-03 Soil	**Sampled: 02/13/06 13:45**	
1613-Dioxin-HR-Alta	02/20/06 13:45	Sub to Alta, 17 congeners, rpt in dry wt if soil
Level 4 + EDD-OUT	03/13/06 13:45	Sub to Alta, EDD=Access 7
Containers Supplied:		
4 oz Jar (IPB1429-03C)		
Sample ID: IPB1429-07 Water	**Sampled: 02/13/06 16:20**	
1613-Dioxin-HR-Alta	02/20/06 16:20	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
1 L Amber (IPB1429-07C)		
Sample ID: IPB1429-09 Soil	**Sampled: 02/14/06 08:51**	**Homogenize ea container & comp both for analysis**
1613-Dioxin-HR-Alta	02/21/06 08:51	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPB1429-09C)		
2 oz jar (IPB1429-09D)		
Sample ID: IPB1429-10 Soil	**Sampled: 02/14/06 09:10**	**Homogenize ea container & comp both for analysis**
1613-Dioxin-HR-Alta	02/21/06 09:10	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPB1429-10C)		
2 oz jar (IPB1429-10D)		
Sample ID: IPB1429-11 Soil	**Sampled: 02/14/06 09:32**	**Homogenize ea container & comp both for analysis**
1613-Dioxin-HR-Alta	02/21/06 09:32	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPB1429-11C)		
2 oz jar (IPB1429-11D)		

Released By	Date	Time	Received By	Date	Time
Vu Banh	2-16-06	1700	Bettina L. Benedict	2/17/06	0915
Released By	Date	Time	Received By	Date	Time

Del Mar Analytical

1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1045
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPB1429

SENDING LABORATORY:

Del Mar Analytical, Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:

Alta Analytical
1104 Windfield Way
El Dorado Hills, CA 95762
Phone :(916) 933-1640
Fax: (916) 673-0106

27302
0.3°C

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => Due Date:_____ **Initials:**_____

Analysis	Expiration	Comments
Sample ID: IPB1429-12 Soil	**Sampled: 02/14/06 09:38**	**Homogenize ea container & comp both for analysis**
1613-Dioxin-HR-Alta	02/21/06 09:38	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPB1429-12C)		
2 oz jar (IPB1429-12D)		
Sample ID: IPB1429-13 Soil	**Sampled: 02/14/06 10:03**	**Homogenize ea container & comp both for analysis**
1613-Dioxin-HR-Alta	02/21/06 10:03	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPB1429-13C)		
2 oz jar (IPB1429-13D)		

SAMPLE INTEGRITY:

All containers intact: ☐ Yes ☐ No
Custody Seals Present: ☐ Yes ☐ No
Sample labels/COC agree: ☐ Yes ☐ No
Samples Preserved Properly: ☐ Yes ☐ No
Samples Received On Ice:: ☐ Yes ☐ No
Samples Received at (temp): _____

Released By	Date	Time	Received By	Date	Time
Van Bandy	2-16-06	1700	Bettina L. Benedict	2/17/06	0915

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27302

Samples Arrival:	**Date/Time** 2/17/06 0915		**Initials:** LBdB		**Location:** WR-2		
Logged In:	**Date/Time** 2/17/06 1544		**Initials:** LBdB		**Location:** WR-2		
Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other	
Preservation:	(Ice)	Blue Ice	Dry Ice	None			
Temp °C 0.3°C	**Time:** 0925			**Thermometer ID:** DT-20			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		✓ LBdB 2/17/06
Shipping Documentation Present?	✓		
Airbill / Trk # 7926 6266 3830	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)	
Shipping Container	Alta	(Client)	Retain	(Return) Dispose

Comments:

Calscience
Environmental
Laboratories, Inc.

February 28, 2006

Michele Chamberlin
Del Mar Analytical
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5845

Subject: **Calscience Work Order No.: 06-02-0940**
Client Reference: IPB1429

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 2/17/2006 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Steven L. Lane
Laboratory Director

Calscience Environmental Laboratories, Inc.

Case Narrative for 06-02-0940

Sample Condition on Receipt

One aqueous sample and five soil samples were received as part of this Work Order on February 17, 2006. All samples were transferred to the laboratory in an ice-chest following strict chain-of-custody procedures. The temperature (3.1°C) of the samples was measured upon arrival in the laboratory and was within acceptable limits. The samples were logged into the Laboratory Information Management System (LIMS), given laboratory identification numbers, and stored in refrigeration units pending analysis.

The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in it entirety.

Data Summary

The samples included in this report were analyzed in accordance with the attached chain-of-custody (COC) records. Data is presented on a dry weight basis.

Holding Times
All holding time requirements were met.

Calibration
Frequency and control criteria for initial and continuing calibration verifications were met.

Blanks
The method blank data showed non-detectable levels for all constituents.

Matrix Spikes
Matrix Spikes (MS) and Matrix Spike Duplicates (MSD) were performed at required frequencies. All recoveries were within acceptable limits.

Laboratory Control Samples
The Laboratory Control Sample (LCS) analyses were performed at the required frequencies. All recoveries were within acceptable limits.

Surrogates
Surrogate recoveries for all samples were within acceptable control limits.

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
Sample Summary Report

WORK ORDER #: **06-02-0940** **QAPP:** **0000**

#	*Client Sample ID*	*Matrix*	*Date Collected*	*NoC*	*Comment*
1	IPB1429-01	S	02/13/2006	1	
2	IPB1429-03	S	02/13/2006	1	
3	IPB1429-07	W	02/13/2006	1	
4	IPB1429-11(IPB1429-11E)	S	02/14/2006	1	
5	IPB1429-11(IPB1429-11F)	S	02/14/2006	1	
6	IPB1429-12(IPB1429-12E)	S	02/14/2006	1	
7	IPB1429-12(IPB1429-12F)	S	02/14/2006	1	
8	IPB1429-13(IPB1429-13E)	S	02/14/2006	1	
9	IPB1429-13(IPB1429-13F)	S	02/14/2006	1	
10	IPB1429-11	S	02/14/2006	1	COMPOSITE SAMPLES -4 AND -5. HOMOGENIZE EACH BEFORE COMPOSITE.
11	IPB1429-12	S	02/14/2006	1	COMPOSITE SAMPLES -6 AND -7. HOMOGENIZE EACH BEFORE COMPOSITE.
12	IPB1429-13	S	02/14/2006	1	COMPOSITE SAMPLES -8 AND -9. HOMOGENIZE EACH BEFORE COMPOSITE.

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 06 - 02 - 0940

Cooler 1 **of** 1

SAMPLE RECEIPT FORM

CLIENT: Delman **DATE:** 2/17/06

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

_____ Chilled, cooler with temperature blank provided.
_____ Chilled, cooler without temperature blank.
_____ Chilled and placed in cooler with wet ice.
_____ Ambient and placed in cooler with wet ice.
_____ Ambient temperature.
_____ °C Temperature blank.

LABORATORY (Other than Calscience Courier):

_____ °C Temperature blank.
4.1 °C IR thermometer.
_____ Ambient temperature.

Initial: JP

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Applicable (N/A): ✓

Initial: JP

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers for analyses requested	✓		
Proper preservation noted on sample label(s)			✓
VOA vial(s) free of headspace.			✓
Tedlar bag(s) free of condensation			✓

Initial: JP

COMMENTS:

Del Mar Analytical

17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPB1429

SENDING LABORATORY:
Del Mar Analytical, Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:
Calscience-SUB
7440 Lincoln Way
Garden Grove, CA 92841
Phone :714-895-5494
Fax: 714-894-7501

0940

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => Due Date:_____ Initials:_____

Analysis	Expiration	Comments
Sample ID: IPB1429-01 Soil	**Sampled: 02/13/06 13:45**	
8270C (SIM)-OUT	02/27/06 13:45	PAH,sub=CalSci,dry wt(soil) & calc w/ actual sx wt
Dry Wt-OUT	03/13/06 13:45	% solids, sub to Calscience, $10/sample
Level 3 Data Package - Out	03/13/06 13:45	Sub to Calscience,DMA Lvl IV,std logs,EDD=Access 7
Containers Supplied:		
4 oz Jar (IPB1429-01B)		
Sample ID: IPB1429-03 Soil	**Sampled: 02/13/06 13:45**	
8270C (SIM)-OUT	02/27/06 13:45	PAH,sub=CalSci,dry wt(soil) & calc w/ actual sx wt
Dry Wt-OUT	03/13/06 13:45	% solids, sub to Calscience, $10/sample
Containers Supplied:		
4 oz Jar (IPB1429-03B)		
Sample ID: IPB1429-07 Water	**Sampled: 02/13/06 16:20**	
8270C (SIM)-OUT	02/20/06 16:20	PAH,sub=CalSci,dry wt(soil) & calc w/ actual sx wt
Containers Supplied:		
1 L Amber (IPB1429-07B)		
Sample ID: IPB1429-11 Soil	**Sampled: 02/14/06 09:32**	**Homogenize ea container & comp both for analysis**
8270C (SIM)-OUT	02/28/06 09:32	PAH,sub=CalSci,dry wt(soil) & calc w/ actual sx wt
Dry Wt-OUT	03/14/06 09:32	% solids, sub to Calscience, $10/sample
Containers Supplied:		
2 oz jar (IPB1429-11E)		
2 oz jar (IPB1429-11F)		
Sample ID: IPB1429-12 Soil	**Sampled: 02/14/06 09:38**	**Homogenize ea container & comp both for analysis**
8270C (SIM)-OUT	02/28/06 09:38	PAH,sub=CalSci,dry wt(soil) & calc w/ actual sx wt
Dry Wt-OUT	03/14/06 09:38	% solids, sub to Calscience, $10/sample
Containers Supplied:		
2 oz jar (IPB1429-12E)		
2 oz jar (IPB1429-12F)		

Released By	Date	Time	Received By	Date	Time
[signature]	2-16-06	1700	[signature]	2/17/06	7:00
[signature]	2-17-06	737	[signature] CEL	2/17/06	0737

Del Mar Analytical

17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1045
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPB1429

SENDING LABORATORY:

Del Mar Analytical, Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:

Calscience-SUB
7440 Lincoln Way
Garden Grove, CA 92841
Phone :714-895-5494
Fax: 714-894-7501

0940

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => Due Date:_____ Initials:_____

Analysis	Expiration	Comments
Sample ID: IPB1429-13 Soil	**Sampled: 02/14/06 10:03**	**Homogenize ea container & comp both for analysis**
8270C (SIM)-OUT	02/28/06 10:03	PAH,sub=CalSci,dry wt(soil) & calc w/ actual sx wt
Dry Wt-OUT	03/14/06 10:03	% solids, sub to Calscience, $10/sample

Containers Supplied:
2 oz jar (IPB1429-13E)
2 oz jar (IPB1429-13F)

SAMPLE INTEGRITY:

All containers intact: ☐ Yes ☐ No | Sample labels/COC agree: ☐ Yes ☐ No | Samples Received On Ice:: ☐ Yes ☐ No
Custody Seals Present: ☐ Yes ☐ No | Samples Preserved Properly: ☐ Yes ☐ No | Samples Received at (temp): _____

Released By	Date	Time	Received By	Date	Time
[illegible]	2-16-06	1700	[illegible]	2/16/06	1700
[illegible]	2/17/06	737	[illegible]	2/17/06	0737

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 06-02-0940

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Del Mar Analytical

LABORATORY REPORT

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

Project: SSFL Group 6
Data Gap

Sampled: 02/14/06
Received: 02/14/06
Issued: 04/20/06 17:50

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 7 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 5°C, on ice and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	Results that fall between the MDL and RL are 'J' flagged.
SUBCONTRACTED:	There were no subcontract analyses associated with this report.
ADDITIONAL INFORMATION:	Enclosed are results for additional analyses only.

LABORATORY ID	CLIENT ID	MATRIX
IPB1429-11	MJ619	Soil
IPB1429-23	MJ635	Soil
IPB1429-24	MJ636	Soil

Reviewed By:

Michele Chamberlin

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/14/06
Received: 02/14/06

DATA QUALIFIERS AND DEFINITIONS

A-01	Sample result might be biased high due to coelution of Aroclors 1254 and 1260.
C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
H-1	Sample analysis performed past the method-specified holding time per client's approval.
H4	Sample was extracted past holding time, but analyzed within analysis holding time.
R-2	The RPD exceeded the method control limit.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/14/06
Received: 02/14/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
EPA 160.3 MOD	Soil	N/A	N/A
EPA 160.3 MOD	Solid	N/A	N/A
EPA 3545/8082	Soil	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CHD

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL Group 6 Data Gap
Control Number: COC MJ608
Date 2/13/06 Page 1 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	-Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No.
QC Level:
TAT: Standard

Preservatives: Water sample: HNO_3, None

Sample ID	Description (for MWH use only)	SWMU	Depth (feet)	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	Ash	8260B	VOC	8015BM	TPH	8270CSIM PAHs NDMA mc 2/15/06	SVOC	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ608	NCBS07 S02	7.10	0.5	2/13/06	1345			X			X					X														HA			1
MJ609	NCBS07 S03		3					X								X			X													X	1
MJ610	NCBS07 S01		5					X								X			X											↓			1
MJ611	NCBS14 S01		0.5		1513			X														X						8 oz jar	G				1
MJ612	NCBS15 S01		0.5		1526			X														X						8 oz jar	G				1
~~MJ613~~	~~NCBS07 S04~~		~~10~~		~~1532~~			X								X			X										HA		X	1
MJ614	NCBS16 S01		0.5		1548			X														X						8 oz jar	G				1
MJ615	NCQW06 E01		—		1620				X							X			X			X							—	X			4
MJ616	NCBS17 S01		0.5	2-14-06	844			X														X								MC			1
MJ617	NCBS 12 S01		0.5		851			X											X											2/15/06			2
MJ618	NCBS10 S01		0.5		910			X											X														2
MJ619	NCBSS07 S01		0.5		932			X								X			X			X											2

Samplers Signature: BCB	Date 2/13/06	Time 1330
Relinquished By:	Date 2/14/06	Time 1610
Received By:	Date 2/14/06	Time 1610
Relinquished By:	Date 2/14/06	Time 1930
Received By (LAB):	Date 2/14/06	Time 19:30

White Copy:Original Yellow:Lab Copy Pink:Field Copy

VB

For Lab Use

Lab Number:

Comments:

Does COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC Seal intact: (Y) or N
Any other problems: Y or (N)
If any YES, MWH contacted: Y or N
Date Contacted: / /
Temperature °C 5

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL Group 6 Data Group
Control Number: COC MJ620
Date 2/14/06 Page 1 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No.
QC Level:
TAT: Standard

Preservatives: Water Samples: HNO_3, None

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product
MJ620	NCSS06 S01	7.10	0.5	2-14-06	938			X		
MJ621	NCSS08 S01	↓	0.5		1003			X		
MJ622	SRBS51 S70	AOC	0.5		/			X		
MJ623	SRBS54S01		0.5		1049			X		
MJ624	SRBS54S02		0.5		1050			X		
MJ625	SRBS 54S03		0.5		1100			X		
MJ626	SRBS 545 04		0.5		1109			X		
MJ627	SRBS54 S 05		2.5		1102			X		
MJ628	SRBS55S01		0.5		1130			X		
MJ629	SRBS56S01		0.5		1145			X		
MJ630	SRBS~~58~~ 58 S01		0.5		1323			X		
MJ631	SRBS 59 S01		0.5		1335			X		

Sample ID	8260B VOC	8015BM TPH	8270CSIM SVOC PAH + NDMA	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ620			X		X			X									G			2
MJ621			X		X			X									G			2
MJ622										X										0
MJ623										X							G		X	1
MJ624										X							G		X	1
MJ625										X							G		X	1
MJ626										X							G		X	1
MJ627										X							G		X	1
MJ628										X							G		/	1
MJ629										X							G			1
MJ630		X						X		X							G			2
MJ631		X						X		X							G			2

Samplers Signature: Bryan Burton	Date 2-14-06	Time 954
Relinquished By:	Date 2-14-06	Time 1610
Received By:	Date 2/14/06	Time 1610
Relinquished By:	Date 2/14/06	Time 1930
Received By (LAB):	Date 2/14/06	Time 19:30

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:
Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC Seal Intact: Y or N
Any other problems: Y or N
If any YES, MWH contacted: Y or N
Date Contacted: / /
Temperature °C 5

Comments:
MJ622 is a composite of MJ623-626.
Please homogenize MJ623-626 individually, then create the composite.
Hold individual samples pending result of composite.
Do not hold MJ628. - run for PCBs.

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL Group 6 Data Group
Control Number: COC MJ632
Date 2 / 14 / 06 Page 3 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No.
QC Level:
TAT: Standard

Preservatives: Water Samples: HNO3, None

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260B VOC	8015BM TPH	8270CSIM SVOC PAH	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ632	SRQW03 E01	~~AOC AK~~	—	2-14-06	1357				X			X								X										5 BG
MJ633	SRBS07 S01		0.5		1405			X										*							Bs		G			1
MJ634	SRBS07 S02		3		1428			X										*							Bs		G			1
MJ635	SRBS 60 S01		0.5		1508			X										*						8 oz jar			G			1
MJ636	SRBS 61 S02		~~0~~ 2 BB		1510			X										*						8 oz jar			G		X	1

Samplers Signature: Bryan Burton	Date 2-14-06	Time 1400
Relinquished By:	Date 2/14/06	Time 1610
Received By:	Date 2/14/06	Time 1610
Relinquished By:	Date 2/14/06	Time 1930
Received By (LAB):	Date 2/14/06	Time 19:30

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:
Does COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC Seal intact: (Y) or N
Any other problems: Y or (N)
If any YES, MWH contacted: Y or N
Date Contacted : / /
Temperature °C 5

Comments: * search for Ag, Se and Tl in MJ635 and MJ636.
Analyze MJ633 and MJ634 for Silver only

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel. 858-751-1200
Fax: 858-751-1201

Date 03/31/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ608	MJ610	NCSS07S01	2/13/06	Metals, Dioxins and PAH's. Standard TAT	Turn on PCB's analysis. Same analyses. Standard TAT.

The reason for these changes:

Incorrectly marked on COC form _____
Lack of sample volume _____
MWH office personnel require this change X
Other: Containers mislabeled _____

Thank you

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568 6600

Chain of Custody

Project: SSFL Grab Data Gap

Control Number: COC MJ608

Date 2/13/06 Page 1 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No.
QC Level:
TAT: Standard

Preservatives: Water sample: HNO_3, None

| Sample Data | | | | | | | | Matrix | | | | Preservatives | | | | | | | |

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date: 03/31/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Braoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ632	MJ635	SRBS60S01	2/14/06	Silver, Selenium and Thallium. Standard TAT.	Turn on PCB's analysis (Method 8082). Standard TAT.
MJ632	MJ636	SRBS60S02	2/14/06	Silver, Selenium and Thallium. Standard TAT.	Turn on PCB's analysis (Method 8082). Standard TAT.

The reason for these changes:

Incorrectly marked on COC form _____
Lack of sample volume _____
MWH office personnel require this change X
Other: Containers mislabeled _____

Thank you

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568 6600

Chain of Custody

Project: [illegible]
Control Number: COC [illegible]
Date 2/14/06 Page 3 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	[illegible]
Comment:	

Cooler No.
QC Level:
TAT: St [illegible]

Preservatives: Water [illegible] HNO3, N[illegible]

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260B VOC	8015BM TPH	8270CSIM SVOC PAH	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ632	SRQW03 E01	~~[illegible]~~	—	2-14-06	1357				X			X								X									~~6~~ 5
MJ633	SRBS07 S01		0.5		1405			X										*								G			1
MJ634	SRBS07 S02		3		1428			X										*								G			1
MJ635	SRBS 60 S01		0.5		1508			X										*		X						G			1
MJ636	SRBS ~~61~~ S02		~~0.2~~ 3.0		1510			X										*		X	AB 03/31/06					G		X	1
	60																												

Samplers Signature: [illegible]	Date 2/14/06	Time [illegible]
Relinquished By: [illegible]	Date 2/14/06	Time 1610
Received By:	Date	Time
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:
Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC Seal intact: Y or N
Any other problems: Y or N
If any YES, MWH contacted: Y or N
Date Contacted: __/__/__
Temperature °C

Comments: * [illegible] Ag, Se and Tl in MJ635 and MJ636. [illegible] MJ633 and MJ634 [illegible]

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date. 02/24/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ620	MJ622	SRBS51S70	2/14/06	PCB by Method 8082. Standard TAT.	Change MWH_ID to SRBS54S70. Same analysis.

The reason for these changes:

Incorrectly marked on COC form _____
Lack of sample volume _____
MWH office personnel require this change X
Other: Containers mislabeled _____

Thank you

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL G[illegible]
Control Number: COC MJ62C
Date 2/14/06 Page 2 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	[illegible]
Comment:	

Cooler No.
QC Level:
TAT: [illegible]

Preservatives: W[illegible] HNO[illegible]

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260B VOC	8015BM TPH	8270CSIM SVOC PAH	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ620	NCSS06S01	7.10	0.5	2/14/06	938			X					X		X			X								G			2
MJ621	NCSS08S01	↓	0.5		1003			X					X		X			X								G			2
MJ622	SRBS51S70	[illegible]	0.5		—			X												X									
MJ623	SRBS54S01		0.5		1049			X												X						G		X	1
MJ624	SRBS54S02		0.5		1050			X												X						G		X	1
MJ625	SRBS54S03		0.5		1100			X												X						G		X	1
MJ626	SRBS54S04		0.5		1109			X												X						G		X	1
MJ627	SRBS54S05		2.5		1102			X												X						G		X	1
MJ628	SRBS55S01		0.5		1130			X												X						G		X	1
MJ621	SRBS56S01		0.5		1145			X												X						G			1
[illegible]	[illegible]58S01		0.5		[illegible]			X				X						X		X						G			
[illegible]	SRBS59S01		0.5		1335			X				X						X		X						G			2

TB 2/23/06
54

Samplers Signature:	Date	Time
Brian Lunten	2/14/06	954
Relinquished By: [signature]	2/14/06	1610
Received By:		
Relinquished By:		
Received By (LAB):		

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:
Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC Seal intact: Y or N
Any other problems: Y or N
If any YES, MWH contacted: Y or N
Date Contacted: __/__/__
Temperature °C

Comments:
MJ622 is a composite of MJ623-626.
[illegible]
[illegible]
[illegible]
[illegible]
D[illegible] MJ628 - run for PCBs.

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date: 02/24/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ632	MJ636	SRBS61S02	2/14/06	Silver, Selenium, Thallium analysis. Standard TAT.	Change MWH_ID to SRBS60S02. Same analysis.

The reason for these changes:

Incorrectly marked on COC form _____
Lack of sample volume _____
MWH office personnel require this change X
Other: Containers mislabeled _____

Thank you

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL Group [illegible]
Control Number: COC MJ 6[illegible]2
Date 2 / 14 / 06 Page 3 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowel Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	[illegible]
Comment:	

Cooler No.
QC Level:
TAT: Standard

Preservatives: Water [illegible]; HNO3, N[illegible]

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260B VOC	8015BM TPH	8270CSIM SVOC PAH	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
											HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4, pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C				
MJ632	SRQW03 E01	[illegible]	—	2-14-06	1357				X			X								X									~~6~~ 5
MJ633	SRBS07 S01		0.5		1405			X										*								G			1
MJ634	SRBS07 S02		3		1428			X										*								G			1
MJ635	SRBS 60 S01		0.5		1508			X										*								G			1
MJ636	SRBS 61 S02		2		1510			X										*								G		X	1
	60																												

Samplers Signature: [illegible]	Date 2-14-06	Time 14:0[illegible]
Relinquished By: [illegible]	Date 2/14/06	Time 1610
Received By:	Date	Time
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:
Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC Seal intact: Y or N
Any other problems: Y or N
If any YES, MWH contacted: Y or N
Date Contacted: __/__/__
Temperature °C

Comments: * [illegible] Ag, Se and Tl in MJ635 and MJ636. [illegible] MJ633 and MJ634 [illegible]

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date: 05/01/06

To: Michele Chamberlin/ De Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ632	MJ636	SRBS60S02	2/14/06	Silver, Selenium, Thallium and PCB's. Standard TAT.	Turn on Dioxin analysis (Method 1613B). 14 day rush TAT. Same analyses.

The reason for these changes:

Incorrectly marked on COC form	
Lack of sample volume	
MWH office personnel require this change	X
Other: Containers mislabeled	

Thank you

MWH
MONTGOMERY WATSON HARZA

300 N. Lake Avenue, Suite 1200
Pasadena, CA 91101
(626) 568-6600

Chain of Custody

Project: SSFL Groundwater

Control Number: COC MJ632

Date 2/14/06 Page 3 of 3

Project Manager:	Dixie Hambrick
Project Name:	Boeing SSFL
Project Number:	
Deliver the results to the address above or as stated in contract	

Bill To:	Lowal Moffit
Company:	MWH
Address:	300 N. Lake Avenue, Suite 1200 Pasadena, CA, 91101

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No.

QC Level:

TAT: St. Ltrd

Preservatives: Water samples: HNO3, None

Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID
MJ632	SRGW03 E01	ALAY	—	2-14-06	1357		
MJ633	SRBS07 S01	1	0.5		1405		
MJ634	SRBS07 S02	1	3		1428		
MJ635	SRBS 60 S01	1	0.5		1508		
MJ636	SRBS 60 S02	1	0.5 (3.0)		1510		

Matrix: Soil, Water, Product.

Sample ID	Soil	Water	Product.
MJ632		X	
MJ633	X		
MJ634	X		
MJ635	X		
MJ636	X		

Sample ID	8260B VOC	8015BM TPH	8270CSIM PAH	8270C SVOC	8290 DIOXINS	8315A FORMALDEHYDE	8330 ORDNANCE	6000/7000 METALS	7196A HEX CHROMIUM	8082 PCBs	9040B/9045C pH	340.2 FLUORIDE	300M ANIONS	300M HYDRAZINE	314.0 PERCHLORATE	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ632	X							*		X						G			5
MJ633								*								G			1
MJ634								*								G			1
MJ635					X			*		X						G			1
MJ636					X			*		X	AB 03/31/06					G		X	1

AB 03/31/06

Samplers Signature: Bowen Bunton — Date 2-14-06 Time 1410

Relinquished By: — Date 2/14/06 Time 1610

Received By: — Date — Time —

Relinquished By: — Date — Time —

Received By (LAB): — Date — Time —

White Copy:Original Yellow:Lab Copy Pink:Field Copy

For Lab Use

Lab Number:

Does COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC Seal Intact: Y or N

Any other problems: Y or N

If any YES, MWH contacted: Y or N

Date Contacted: __/__/__

Temperature °C

Comments: * Sample is Ag, Se and Tl in MJ635 and MJ636.

A... MJ633 and MJ634 ...

ALTA

May 10, 2006

Alta Project I.D.: 27639

Ms. Michele Chamberlin
Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the five soil samples received at Alta Analytical Laboratory on April 29, 2006 under your Project Name "IPD2761". These samples were extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maier
Director of HRMS Services

ACCREDITED IN ACCORDANCE WITH nelac

Alta Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. This report should not be reproduced except in full without the written approval of ALTA

Alta Analytical Laboratory Inc.
1104 Windfield Way
El Dorado Hills, CA 95762
FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: **4/29/2006**

Alta Lab. ID	Client Sample ID
27639-001	IPD2761-01
27639-002	IPD2761-02
27639-003	IPD2761-03
27639-004	IPD2761-05
27639-005	IPB1429-24

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated Detection Limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that corresponds to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

Del Mar Analytical

17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPB1429

SENDING LABORATORY:

Del Mar Analytical - Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:

Alta Analytical - SUB
1104 Windfield Way
El Dorado Hills, CA 95762
Phone :(916) 933-1640
Fax: (916) 673-0106

~~27640~~
27639
0.2°C

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => Due Date:_____ Initials:_____

Analysis	Expiration	Comments
Sample ID: IPB1429-23 Soil	**Sampled: 02/14/06 15:08**	**3/27/06 Add-in 8081 by M.C. 4/28 sub-Alta on hold**
HOLD	02/14/07 15:08	
Containers Supplied:		
8 oz Jar (IPB1429-23A)		
Sample ID: IPB1429-24 Soil	**Sampled: 02/14/06 15:10**	**Taken off Hold 3/29/06. 4/28 sub to Alta on hold.**
HOLD	02/14/07 15:10	
Containers Supplied:		
8 oz Jar (IPB1429-24A)		

SAMPLE INTEGRITY:

All containers intact: ☐ Yes ☐ No Sample labels/COC agree: ☐ Yes ☐ No Samples Received On Ice:: ☐ Yes ☐ No
Custody Seals Present: ☐ Yes ☐ No Samples Preserved Properly: ☐ Yes ☐ No Samples Received at (temp): _____

Released By	Date	Time	Received By	Date	Time
Vu Banh	4/28/06		Michael Tallent	04/29/06	0900

Del Mar Analytical

17461 Derian Ave. Suite 100, Irvine, CA (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPB1429

SENDING LABORATORY:
Del Mar Analytical - Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:
Alta Analytical - SUB
1104 Windfield Way
El Dorado Hills, CA 95762
Phone :(916) 933-1640
Fax: (916) 673-0106

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => Due Date: 2weeks, 5/15/06 **Initials:** MC

Analysis	Expiration	Comments
Sample ID: IPB1429-23 Soil	**Sampled: 02/14/06 15:08**	**3/27/06 Add-in 8082 by MC. 4/28 sub=Alta on hold**
HOLD	02/14/07 15:08	
Containers Supplied:		
8 oz Jar (IPB1429-23A)		
Sample ID: IPB1429-24 Soil	**Sampled: 02/14/06 15:10**	**Taken off Hold 3/29/06. 4/28 sub to Alta on hold.**
1613-Dioxin-HR-Alta	02/21/06 15:10	Sub to Alta, 17 congeners, rpt in dry wt if soil
Level 4 + EDD-OUT	05/14/06 15:10	Sub to Alta, EDD=Access 7
Containers Supplied:		
8 oz Jar (IPB1429-24A)		

MC 5/8/06

Revised 5/1/06 MC

SAMPLE INTEGRITY:

All containers intact: ☐ Yes ☐ No | Sample labels/COC agree: ☐ Yes ☐ No | Samples Received On Ice:: ☐ Yes ☐ No
Custody Seals Present: ☐ Yes ☐ No | Samples Preserved Properly: ☐ Yes ☐ No | Samples Received at (temp): _____

Released By	Date	Time	Received By	Date	Time
Released By	Date	Time	Received By	Date	Time

AREA 7
VOA's, MISC.
NOT B/NA

AnalyticalTechnologies, Inc.
Corporate Offices: 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141

ATI I.D. 808317

RECEIVED SEP 23 1988

September 21, 1988

Groundwater Resources Consultants, Inc.
1020 S. Euclid Avenue
Tucson, Arizona 85719

Project No.: 8640-4

Project Name: Rocketdyne

Attention: Chuck Dickens

On August 27, 1988, Analytical Technologies, Inc. received twenty-two soil samples for analyses. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. Please see the attached sheet for the sample cross reference.

The results, the sample cross reference, and the quality control data are enclosed. The semi-volatile organic results will be sent under a separate cover.

Patricia A. Schroder
GC Supervisor

Richard M. Amano
Laboratory Manager

PAS:mag

Validate "DEWCONS" & "ESADA" Samples Only!

ATI Lab # 00051

CHAIN OF CUSTODY RECORD

Groundwater Resources Consultants, Inc.
1020 S. Euclid Ave
Tucson, Arizona 85719
(602) 629-0909

Client name: RocketDyne | Job number: 8640-4

Project name: SSFL Area IV

Project manager: C. Dickens | Sampler(s): G. Foushee, D. Hawkins

Sample number	Date sampled	Time sampled	Type Composite or Grab	Sample description	Number of containers	8240	8270	pH	Na & K	Total petro. hydrocarbons	Hazardous sample / Special handling required	Remarks
SADA1 1.5-2.0	8/23/88	10:00	G	Soil, Brass Tubes 01	1	X	X	X	X	X		
DA1 4.0-4.5	"	10:20	"	" 02	1	X	X	X	X	X		
DA2 1.0-1.5	"	11:00	"	" 03	1	X	X	X	X	X		
DA2 4.5-5.0	"	11:20	"	" 04	1	X	X	X	X	X		
DA3 1.0-1.5	8/24/88	7:15	"	" 05	1	X	X	X	X	X		
DA3 3.5-4.0	8/24/88	7:20	"	" 06	1	X	X	X	X	X		
ICONS1 1.5-2.0	8/24/88	8:10	"	" 07	1	X	X	X		X		
CONS1 3.5-4.0	8/24/88	8:20	"	" 08	1	X	X	X		X		
CONS2 1-1.5	8/24/88	8:50	"	" 09	1	X	X	X		X		
CONS2 3.5-4.0	8/24/88	8:55	"	" 10	1	X	X	X		X		
CONS3 1.0-1.5	8/24/88	9:10	"	" 11	1	X	X	X		X		
CONS3 3.5-3.8	8/24/88	9:20	"	" 12	1	X	X	X		X		

	Signature	Company	Date	Time
Relinquished by		Groundwater Resources	8/25/88	18:30
Received by	Rose Marie McHugh	Analytical Technologies, Inc.	8/27/88	1400
Relinquished by				
Received by				
Relinquished by				
Received by				

ATI Lab # 808314

(2)

CHAIN OF CUSTODY RECORD

BC Log Number _____

Client name: ROCKETDYNE

Job number: 8640-4

Project name: SSFL - AREA IV

Project manager: C. DICKENS

Sampler(s): G. FOUSHEE, D. HAWKINS

Analyses required

Sample number	Date sampled	Time sampled	Type Composite or Grab	Sample description	Number of containers	8240	8270	pH	Total Petrol. Hydrocarbons			Hazardous sample Special handling required	Remarks
				Soil, BRASS TUBES									
DRUM1 1.0-1.5	88 8/24	10:05	G	" 13	1	X	X	X	X				headspace in
DRUM1 3.5-4.0	"	10:25		14	1	X	X	X	X				brass tubes below
DRUM2 1.0-1.5	"	10:50		15	1	X	X	X	X				B100-1, B100-4
DRUM2 3.5-4.0	"	11:00		16	1	X	X	X	X				SE Drum1 3.5-4.0,
DRUM3 2.0-2.5	"	11:25		17	1	X	X	X	X				SE Drum2 1.0-1.5,
DRUM3 3.5-4.0	"	11:35		18	1	X	X	X	X				SE Drum 2 3.5-4.0,
0-1	8/25	14:20		19	1	X	X	X	X				NEW CONS 2 3.5-4.0
-100-2	"	14:40		20	1	X	X	X	X				
-100-3	"	15:00		21	1	X	X	X	X				
-100-4	"	15:05		22	1	X	X	X	X				

	Signature	Company	Date	Time
Relinquished by	[signature]	GROUNDWATER RESOURCES	8/25/88	18:30
Received by	Rose Marie McHugh	Analytical Technologies Inc	8/27/88	1400
Relinquished by				
Received by				
Relinquished by				
Received by				

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.
Hazardous samples will be returned to client or disposed

AREA IV BNA SOILS

AnalyticalTechnologies, Inc. Corporate Offices: 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141

ATI I.D. 808317

October 18, 1988

Groundwater Resources Consultants, Inc.
1020 S. Euclid Avenue
Tucson, Arizona 85719

TABD 10/21 GF

RECEIVED OCT 20 1988

Project No.: 8640-4

Project Name: Rocketdyne

Attention: Chuck Dickens

Enclosed are the semi-volatile organic results which were missing from the report dated September 21, 1988.

We apologize for this delay.

Patricia A. Schroder
GC Supervisor

Richard M. Amano
Laboratory Manager

PAS:bc

Columbia Analytical Services INC.
An Employee Owned Company

November 17, 1999

Lisa Arrasmith
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9903979

Dear Lisa:

Enclosed are the results of the samples submitted to our laboratory on September 21-23, 1999. The samples were sent to Alta for Dioxins. Please find their report (#7356) attached. Samples were also sent to our Kelso facility for Formaldehyde. Please find their report (K9906630) attached. For your refernece, these analyses have been assigned our servicees request number L9903979.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296A, expiration: August 31, 2000).

If you have any questions, please call me at (818) 587-5550, extension 300.

Respectfully submitted,

Columbia Analytical Services, Inc.

Eydie Schwartz for

Leo C. Raab
Lab Director

LCR/iz

00001

CAS CSR #L9903979

Table of Contents

Cover Letter 001
Acronym List 002
Case Narrative 003
Sample Delivery Group Assignment 004-006
Chain of Custodies 007-009
Percent Solids 010-012
Base Neutral/Acid Semivolatile Organic Compounds Analytical Data 100-109
Base Neutral/Acid Semivolatile Organic Compounds Raw Data 200-312
Base Neutral Semivolatile Organic Compounds Analytical Data 400-409
Base Neutral Semivolatile Organic Compounds Raw Data 500-655
Polychlorinated Biphenyls (PCBs) Analytical Data 700-710
Polychlorinated Biphenyls (PCBs) Raw Data 800-907
Hydrocarbon Scan / Fuel Characterization Analytical Data 1000-1010
Hydrocarbon Scan / Fuel Characterization Raw Data 1100-1212
Halogenated and Aromatic Volatile Organic Compounds Analytical Data 1300-1330
Halogenated and Aromatic Volatile Organic Compounds Raw Data 1400-1826
Metals Analytical Data 1900-1909
Metals Raw Data 2000-2064
Inorganic Parameters Analytical Data 2100-2107
Inorganic Parameters Raw Data 2200-2201
Appendix A 2300-2309
Appendix B 2400-2986

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
EQL	Estimated Qauntitation Limit
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

00002

~~00001~~

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9903979
Project:	Rocketdyne/313150002	**Date Received:**	9/21-23/99
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Internal Login Summary Report" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The Formaldehyde sample was analyzed by our Kelso Facility. Their job number is K9906630.

The Dioxin sample was analyzed by Alta Analytical. Their job number is 7356.

The following difficulties were experienced during analysis of this batch: On 9/23/99 the CCV for Chloromethane (Method 8021B), had a percent difference result above 15%. This same CCV for Chlorotrifluoroethane uses linear regression. There is no sample curve for this compound. The second standard for the CCV on 9/23/99 has percent difference results above 15% for 1,1-DCA and 2-Chloroethyl Vinyl Ether. This CCV also uses linear regression for Chlorotrifluoroethane. On 9/24/99 the CCV has percent difference results above 15% for 1,1,2-TCA and 2-Chloroethyl Vinyl Ether. Once again this CCV uses a linear regression method for Chlorotrifluoroethane. The second standard for the CCV on 9/24/99 has three compounds above the 15%, percent difference level. On 9/24/99 the MTBE result from the PID has a percent difference above 15%. The OGDEN CCV has two compounds above 15%. A curve for linear regression compounds in Ogden's standard is also necessary. The CCV on 9/25/99, third standard, has four compounds that are above the 15% difference level. The PID has Xylene above the 15% difference level. Once again a linear regression curve is needed. The Ogden CCV has Acetone at 21% difference from the PID.

For method 8021B, sample RS894 (undiluted) there are several compounds which are flagged as estimated. This is due to the internal standard response factor exceeding the upper limit. This sample was rerun at a dilution, those results are included in this report.

As required samples RS892 and RS893 were reanalyzed for all hits by method 8021B. The results did not confirm.

On sample RS885, the MS/DMS results were not calculated for Aluminum. This is due to the relatively high concentration of the sample analyte compared to the spike concentration. Antimony, Beryllium, Cadmium, Cobalt, Copper, Lead, Nickel, Selenium, Vanadium and Zinc are also outside of acceptance limits. In all cases the LCS was acceptable, therefore, the data was approved.

Data Qualifier Flags are: U – Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: Lydia Scheurich Date: 11/17/99

Columbia Analytical Services -- Canoga Park
INTERNAL LOGIN SUMMARY REPORT (il01)
27-SEP-99 11:35

00064

Service Req. No. L9903979
Client No. 154375
Client Name Ogden Environmental

Project No. 313150002
Project Name Rocketdyne

Bottles: 1 - 1 L Plastic
1 - 4 oz Glass
20 - Canisters/Decore

Bill To: Ogden Environmental
Attn: Accounts Payable
5510 Morehouse Dr.
San Diego, CA 92121

Report To: Ogden Environmental
Lisa Arrasmith
5510 Morehouse Dr.
San Diego, CA 92121

P.O. No.
Logged In By SMALONE
ISR Num
COC Received Y
Samples Submitted 21-SEP-99 thru 23-SEP-99

Site ID
Project Chemist Eydie Schwartz

Storage:

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	8021	8081	8270	FORM	HOLD	ICP-2	PH	SIM-PP	TPH-FC-CA	DIOXINS	-DIGEST	TS GEN
L9903979-001	RS320	SOIL	21-SEP-99	28-SEP-99		III							HOLD			III
L9903979-002	RS321	SOIL	21-SEP-99	28-SEP-99		HOLD							III			III
L9903979-003	RS322	SOIL	21-SEP-99	28-SEP-99					III							
L9903979-004	RS323	SOIL	21-SEP-99	28-SEP-99		III										III
L9903979-005	RS324	SOIL	21-SEP-99	28-SEP-99		III										III
L9903979-006	RS883	SOIL	22-SEP-99	29-SEP-99				KLAB								
L9903979-007	RS884	SOIL	22-SEP-99	29-SEP-99				KLAB								
L9903979-008	RS885	SOIL	22-SEP-99	29-SEP-99						III	III				III	
L9903979-009	RS886	SOIL	22-SEP-99	29-SEP-99						III	III				III	
L9903979-010	RS887	SOIL	22-SEP-99	29-SEP-99						III	III				III	
L9903979-011	RS888	SOIL	22-SEP-99	29-SEP-99								III		ALA		
L9903979-012	RS889	SOIL	22-SEP-99	29-SEP-99						III	III				III	
L9903979-013	RS890	SOIL	22-SEP-99	29-SEP-99		III										
L9903979-014	RS892	SOIL	23-SEP-99	30-SEP-99	III								III			III
L9903979-015	RS893	SOIL	23-SEP-99	30-SEP-99	III								III			III
L9903979-016	RS894	SOIL	23-SEP-99	30-SEP-99	III								III			III
L9903979-017	RS895	SOIL	23-SEP-99	30-SEP-99	III								III			III
L9903979-018	RS896	SOIL	23-SEP-99	30-SEP-99						III	III	III	III		III	III
L9903979-019	RS897	SOIL	23-SEP-99	30-SEP-99						III					III	III
L9903979-020	RS898	SOIL	23-SEP-99	30-SEP-99			III			III	III		III		III	III

METALS
IC
SEMI VOA
VOA
WET

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:

Columbia Analytical Services -- Canoga Park
INTERNAL LOGIN SUMMARY REPORT (il01)
27-SEP-99 11:35

00005

Service Req. No. L9903979
Client No. 154375
Client Name Ogden Environmental

Project No. 313150002
Project Name Rocketdyne

Bottles: 1 - 1 L Plastic
1 - 4 oz Glass
20 - Canisters/Decore

Bill To: Ogden Environmental
Attn: Accounts Payable
5510 Morehouse Dr.
San Diego, CA 92121

Report To: Ogden Environmental
Lisa Arrasmith
5510 Morehouse Dr.
San Diego, CA 92121

P.O. No.
Logged In By SMALONE
ISR Num
COC Received Y
Samples Submitted 21-SEP-99 thru 23-SEP-99

Site ID
Project Chemist Eydie Schwartz

Storage:

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	TITLE 22 METALS	TITLE 22 METALS AS/GFAA	TITLE 22 METALS SE/GFAA	TITLE 22 METALS TL/GFAA	TITLE 22 METALS ICP-13
L9903979-001	RS320	SOIL	21-SEP-99	28-SEP-99					
L9903979-002	RS321	SOIL	21-SEP-99	28-SEP-99					
L9903979-003	RS322	SOIL	21-SEP-99	28-SEP-99					
L9903979-004	RS323	SOIL	21-SEP-99	28-SEP-99					
L9903979-005	RS324	SOIL	21-SEP-99	28-SEP-99					
L9903979-006	RS883	SOIL	22-SEP-99	29-SEP-99					
L9903979-007	RS884	SOIL	22-SEP-99	29-SEP-99					
L9903979-008	RS885	SOIL	22-SEP-99	29-SEP-99	III	III	III	III	III
L9903979-009	RS886	SOIL	22-SEP-99	29-SEP-99	III	III	III	III	III
L9903979-010	RS887	SOIL	22-SEP-99	29-SEP-99	III	III	III	III	III
L9903979-011	RS888	SOIL	22-SEP-99	29-SEP-99					
L9903979-012	RS889	SOIL	22-SEP-99	29-SEP-99	III	III	III	III	III
L9903979-013	RS890	SOIL	22-SEP-99	29-SEP-99					
L9903979-014	RS892	SOIL	23-SEP-99	30-SEP-99					
L9903979-015	RS893	SOIL	23-SEP-99	30-SEP-99					
L9903979-016	RS894	SOIL	23-SEP-99	30-SEP-99					
L9903979-017	RS895	SOIL	23-SEP-99	30-SEP-99					
L9903979-018	RS896	SOIL	23-SEP-99	30-SEP-99	III	III	III	III	III
L9903979-019	RS897	SOIL	23-SEP-99	30-SEP-99	III	III	III	III	III
L9903979-020	RS898	SOIL	23-SEP-99	30-SEP-99	III	III	III	III	III

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By: CEA

Columbia Analytical Services -- Canoga Park
INTERNAL LOGIN SUMMARY REPORT (il01)
27-SEP-99 11:35

00068

Service Req. No.	L9903979	Project No.	313150002	Bottles:	1 - 1 L Plastic
Client No.	154375	Project Name	Rocketdyne		1 - 4 oz Glass
Client Name	Ogden Environmental				20 - Canisters/Decore

Bill To:	Ogden Environmental Attn: Accounts Payable 5510 Morehouse Dr. San Diego, CA 92121	Report To:	Ogden Environmental Lisa Arrasmith 5510 Morehouse Dr. San Diego, CA 92121

P.O. No.		Site ID	
Logged In By	SMALONE	Project Chemist	Eydie Schwartz
ISR Num			
COC Received	Y		
Samples Submitted	21-SEP-99 thru 23-SEP-99		Storage:

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	TITLE 22 METALS HG/CVAA
L9903979-001	RS320	SOIL	21-SEP-99	28-SEP-99	
L9903979-002	RS321	SOIL	21-SEP-99	28-SEP-99	
L9903979-003	RS322	SOIL	21-SEP-99	28-SEP-99	
L9903979-004	RS323	SOIL	21-SEP-99	28-SEP-99	
L9903979-005	RS324	SOIL	21-SEP-99	28-SEP-99	
L9903979-006	RS883	SOIL	22-SEP-99	29-SEP-99	
L9903979-007	RS884	SOIL	22-SEP-99	29-SEP-99	
L9903979-008	RS885	SOIL	22-SEP-99	29-SEP-99	III
L9903979-009	RS886	SOIL	22-SEP-99	29-SEP-99	III
L9903979-010	RS887	SOIL	22-SEP-99	29-SEP-99	III
L9903979-011	RS888	SOIL	22-SEP-99	29-SEP-99	
L9903979-012	RS889	SOIL	22-SEP-99	29-SEP-99	III
L9903979-013	RS890	SOIL	22-SEP-99	29-SEP-99	
L9903979-014	RS892	SOIL	23-SEP-99	30-SEP-99	
L9903979-015	RS893	SOIL	23-SEP-99	30-SEP-99	
L9903979-016	RS894	SOIL	23-SEP-99	30-SEP-99	
L9903979-017	RS895	SOIL	23-SEP-99	30-SEP-99	
L9903979-018	RS896	SOIL	23-SEP-99	30-SEP-99	III
L9903979-019	RS897	SOIL	23-SEP-99	30-SEP-99	III
L9903979-020	RS898	SOIL	23-SEP-99	30-SEP-99	III

Comments:

L9903979	Dry weight.
L9903979	EDD
L9903979	PCB's ONLY!
L9903979-004	Homogenize sample.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By: _____

DIVIDER SHEET

DATA FOR

PERCENT SOLIDS

ANALYSIS

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS883
Date 09/22/99 Page 1 of 1

00008

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No: ACZ2B6
QC Level: Level4 TAT: 35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

ULS #	Sample ID	Description (for Ogden use only)	DEPTH ft.	Date Collected	Time Collected	Lab ID	Soil	Water	Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	8082 PCBs	Extra Volume MS/MSD	HOLD	Total # of Bottles
1	RS883	PLBS01S01	1.5'	9/22/99	0940	~~1~~ 6	X							1											1
2	RS884	PLBS02S01	0.5'		1040	~~2~~ 7	X							1											1
13	RS885	ELBS08S01	1.0'		1145	~~3~~ 8	X									1					1				1
11	RS886	ELBS09S01	1.5'		1225	~~4~~ 9	X									1					1				1
14	RS887	ELBS10S01	0.5'		1330	~~5~~ 10	X									1					1				1
5	RS888	NCSS01S02	0.0'		1400	~~6~~ 11	X					1	1												1
33	RS889	CABS27S01	2.5'		1550	~~7~~ 12	X									1					1				1
9a	RS890	CABS21S01	0.5'		1655	~~8~~ 13	X															1			1
—	RS891	PLQW01S01	—		1845	~~9~~ 1		X				1	1	1		1					1	1			5

xcb 9/22/99

Samplers Signature: Thomas J. B[illegible]	Date 9/22/99	Time 0900
Relinquished By: Thomas J. B[illegible]	Date 9/22/99	Time 1940
Received By: Jeo C Rod[illegible]	Date 9/22/99	Time 1940
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number: L9903993-H20

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 9

L9903979 (soils)

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

000007

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS883
Date 09/22/99 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No: ACZ2B6

QC Level: Level4 TAT: 35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

ULS #	Sample ID	Description (for Ogden use only)	DEPTH FT.	Date Collected	Time Collected	Lab ID	Matrix: Soil	Matrix: Water	Matrix: Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	8082 PCBs	Extra Volume MS/MSD	HOLD	Total # of Bottles
1	RS883	PLBS01S01	1.5'	9/22/99	0940	~~1~~ 6	X							1											1
2	RS884	PLBS02S01	0.5'		1040	~~2~~ 7	X							1											1
13	RS885	ELBS08S01	1.0'		1145	~~3~~ 8	X									1					1				1
11	RS886	ELBS09S01	1.5'		1225	~~4~~ 9	X									1					1				1
14	RS887	ELBS10S01	0.5'		1330	~~5~~ 10	X									1					1				1
5	RS888	NCSS01S02	0.0'		1400	~~6~~ 11	X					1	1												1
33	RS889	CABS27S01	2.5'		1550	~~7~~ 12	X									1					1				1
9a	RS890	CABS21S01	0.5'		1655	~~8~~ 13	X															1			1
—	RS891	PLQW01S01	—		1845	~~9~~ 1		X				1	1	1		1					1	1			5

sch 9/22/99

Samplers Signature: Thomas J Bu[illegible]	Date 9/22/99	Time 0900
Relinquished By: Thomas J Bu[illegible]	Date 9/22/99	Time 1940
Received By: Jes C Rod[illegible]	Date 9/22/99	Time 1940
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number: L9903993-H20

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 9

L9903979 (soils)

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

L9903979

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS320

Date 9 / 21 / 1999 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Mark Deffley
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* FLUORIDE, ANIONS, AND PH WILL USE ONE AQUEOUS CONTAINER

Cooler No:	R9		
QC Level:	Level4	TAT:	28 - Day

Preservatives	HCL, pH<2 4°C	H2SO4, pH<2 4°C	4°C	4°C	4°C	4°C	H2SO4,pH<2 4°C	4°C	HNO3, pH<2 4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C					

Sample Data						Field Data		Matrix																								
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	Lab ID	Sampling Method	SWMU	Soil	Water	Product	Sludge	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8270R SVOC	8290 DIOXIN	8081C PCBs	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	6010 METALSA(AL,B)	7196 CrVI	340.2 FLUORIDE *	300 ANIONS*	9045/9040 pH*			Extra Volume MS/MSD	HOLD	Total # of Bottles
RS320	OCTS225B01	1.0'	9/22/99	1245	-1	TS	7.4	X					A				1													1
RS321	OCTS225B02	2.5'		1420	-2	TS	7.4	X					1				8													1
RS322	OCTS225B03	4.0'		1430	-3	TS	7.4	X					1				1												X	1
RS323	OCTS225B01	0.5'		1600	-4	TS	7.4	X									*1													1
RS324	OCTS225B02	4.0'	↓	1637	-5	TS	7.4	X									1													1

9/22/99

Samplers Signature		Date 9/21/99	Time 1800
Relinquished By:		Date 9/21/99	Time 1842
Received By:		Date 9/21/99	Time 1842
Relinquished By:		Date	Time
Received By (LAB):		Date	Time

For Lab Use

Lab Number:

A: Hold TPH
B: Hold PCB
*: Please Homogenize Sample

Does COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: (Y) or N
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 0°C

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

L9903979

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS892

Date 9/23/99 Page 1 of 1

Project Manager:	Dixie Hambrick	Bill To:	Purchasing	Sample Disposal Instructions:	Laboratory Disposal
Project Name:	Rocketdyne	Company:	Ogden Environmental	Shipment Method:	
Project Number:	313150002	Address:	5510 Morehouse Drive, San Diego, CA 92121	Comment:	
Deliver results to the address above or as stated in contract					

Cooler No: R9

QC Level: Level4

TAT: 14-day hardcopy summary
28-day full package

Preservatives

	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4,pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						
Sample ID	8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ			Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS892	/	/																		1
RS893	/	/																		1
RS894	/	/																		1
RS895	/	/																		1
RS896	/	/	/					/				/								2
RS897								/												1
RS898		/		/				/				/								1

Sample Data

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Matrix: Soil	Water	Product	
RS892	B1BS02S01	1.5	9/23/99	0915		14	/			
RS893	B1BS02S02	6.5		1007		15	/			
RS894	B1BS02S03	~~11.5~~ 12.0		1145		16	/			
RS895	B1BS03S01	0.5		1235		17	/			
RS896	LXBS11S01	0.5		1412		18	/			
RS897	LXBS12S02	0.5		1500		19	/			
RS898	SNBS16S01	0.5		1845		20	/			

SN 9/23/99

	Date	Time
Samplers Signature	9/23/99	1900 ~~1700~~
Relinquished By:	9/23/99	1900
Received By:	9/23/99	1900
Relinquished By:	9/23/99	1915
Received By (LAB): Barbara Sanborn	9/23/99	19:15

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

received 9/25/99 JB/S

Analytical Services INC.

6925 CANOGA AVENUE • CANOGA PARK, CA 91303

% Solids / % Moisture

SM 2540B

Sample#	MB	03979-1	03979-1DUP	03979-2
A. Dish+sample (g)	13.8007	9.8641	10.4911	16.8715
B. Dryed weight (g)	1.2873	9.2865	9.8312	15.4206
C. Dish weight (g)	1.2841	1.2848	1.2925	1.2964
D. Dry sample weight (g) (B-C)	0.0032 ~~12.5134~~ pfe 9/25/99	8.0017	8.5387	14.1242
E. Sample weight/volume (A-C) (g) (ml)	12.5166	8.5793	9.1986	15.5751
F. Result (%) or mg/L)	<1 / 799	93.27/6.73	92.87/7.17	90.68/9.32

Sample#	03979-3	03979-4	03979-5	03979-6
A. Dish+sample (g)	12.9681	14.6281	10.4794	13.8630
B. Dryed weight (g)	11.6703	14.1514	10.0147	13.3503
C Dish weight (g)	1.2806	1.2838	1.2804	1.2942
D. Dry sample weight (g) (B-C)	10.3897	12.8676	8.7343	12.0561
E. Sample weight/volume (A-C) (g) (ml)	11.6875	13.3443	9.1990	12.5688
F. Result (%) or mg/L)	88.90/11.1	96.43/3.57	94.95/5.05	95.92/4.08

Sample#	03979-7	03979-8	03979-9	03979-10
A. Dish+sample (g)	13.5323	12.6896	13.9292	~~13~~ 14.0032
B. Dryed weight (g)	13.1761	12.5272	13.8423	13.6148
C. Dish weight (g)	1.2893	1.2820	1.2770	1.2751
D. Dry sample weight (g) (B-C)	11.8868	11.2462	12.5653	12.3397
E. Sample weight/volume (A-C) (g) (ml)	12.2430	11.4076	12.6522	12.7281
F. Result (%) or mg/L)	97.09/2.91	98.58/1.42	99.31/0.69	96.95/3.05

Time in: 18:20 Time out: 06:35

Temperature: 105°C Temperature: 105°C

Comments: CORRECTED TEMP READING

AVG. 03979-1 = 93.07 RPD = <1 %

Analyst: PFE Date: 9/24/99 ~~9/25/99~~

Services INC.

6925 CANOGA AVENUE • CANOGA PARK, CA 91303

% Solids / % Moisture

SM 2540B

Sample#	03979-11	03979-11Dup	03979-12	03979-13
A. Dish+sample (g)	8.7910	9.3356	12.0987	15.0428
B. Dryed weight (g)	8.7195	9.2544	11.3554	14.9108
C. Dish weight (g)	1.2889	1.2957	1.2949	1.2800
D. Dry sample weight (g) (B-C)	7.4306	7.9587	10.0605	13.6308
E. Sample weight/volume (A-C) (g) (ml)	7.5021	8.0399	10.8038	13.7628
F. Result (%) or mg/L)	99.05/0.95	98.99/1.01	93.12/6.88	99.04/0.96

AVG.= 99.02 RPD= <1 %

Sample#	03979-14	03979-15	03979-16	03979-17
A. Dish+sample (g)	15.0174	15.7447	~~13~~ 14.7196	12.5489
B. Dryed weight (g)	14.1937	14.0603	13.3032	12.2920
C Dish weight (g)	1.2866	1.2798	1.2926	1.2797
D. Dry sample weight (g) (B-C)	12.9071	12.7805	12.0106	11.0123
E. Sample weight/volume (A-C) (g) (ml)	13.7308	14.4649	13.4270	11.2692
F. Result (%) or mg/L)	94.00/6.00	88.36/11.64	89.45/10.55	97.72/2.28

Sample#	03979-18	03979-19	03979-20	
A. Dish+sample (g)	13.6332	15.5054	14.3104	
B. Dryed weight (g)	13.3446	15.2717	10.4185	
C. Dish weight (g)	1.2834	1.2817	1.2858	
D. Dry sample weight (g) (B-C)	12.0612 ~~12.2~~	13.9900	9.1327	
E. Sample weight/volume (A-C) (g) (ml)	12.3498	14.2237	13.0246	
F. Result (%) or mg/L)	97.66/2.34	98.36/1.64	70.12/29.89	

Not used

Time in: 18:30 Time out: 06:38

Temperature: 105°C Temperature: 105°C

Comments: CORRECTED TEMP. READING

Analyst: PJC Date: 9/24/99 - 9/25/99

		% Solids						
Sample #	MB		3979-1		3979-1 dup		3979-2	
A. Dish and sample (g)	13.8007		9.8641		10.4911		16.8715	
B. Dried weight (g)	1.2873		9.2865		9.8312		15.4206	
C. Dish weight	1.2841		1.2848		1.2925		1.2964	
D. Dry sample weight (g)	0.0032		8.0017		8.5387		14.1242	
(B-C)								
E. Sample weight/volume	12.5166		8.5793		9.1986		15.5751	
(A-C) (g) (mL)								
Result (% or mg/L)	0.03		93.27	average	92.83		90.68	
% moisture	99.97		6.73	93.05	7.17		9.32	
				6.95				
Sample #	3977-3		3979-4		3979-5		3979-6	
A. Dish and sample (g)	12.9681		14.6281		10.4794		13.863	
B. Dried weight (g)	11.6703		14.1514		10.0147		13.3503	
C. Dish weight	1.2806		1.2838		1.2804		1.2942	
D. Dry sample weight (g)	10.3897		12.8676		8.7343		12.0561	
(B-C)								
E. Sample weight/volume	11.6875		13.3443		9.199		12.5688	
(A-C)								
Result (% or mg/L)	88.90		96.43		94.95		95.92	
% moisture	11.10		3.57		5.05		4.08	
Sample #	39779-7		3979-8		3979-9		3979-10	
A. Dish and sample (g)	13.5323		12.6896		13.9292		14.0032	
B. Dried weight (g)	13.1761		12.5272		13.8423		13.6148	
C Dish weight	1.2893		1.282		1.277		1.2751	
D. Dry sample weight (g)	11.8868		11.2452		12.5653		12.3397	
(B-C)								
E. Sample weight/volume	12.243		11.4076		12.6522		12.7281	
(A-C)								
Result (% or mg/L)	97.09		98.58		99.31		96.95	
% moisture	2.91		1.42		0.69		3.05	
Sample #	3979-11		3979-11 DUP		3979-12		3979-13	
A. Dish and sample (g)	8.791		9.3356		12.0987		15.0428	
B. Dried weight (g)	8.7195		9.2544		11.3554		14.9108	
C. Dish weight	1.2889		1.2957		1.2949		1.28	
D. Dry sample weight (g)	7.4306		7.9587		10.0605		13.6308	
(B-C)								
E. Sample weight/volume	7.5021		8.0399		10.8038		13.7628	
(A-C)								
Result (% or mg/L)	99.05	average	98.99		93.12		99.04	
% moisture	0.95	99.02	1.01		6.88		0.96	
		0.98						
Sample #	3979-14		3979-15		3979-16		3979-17	
A. Dish and sample (g)	15.0174		15.7447		14.7196		12.5489	
B. Dried weight (g)	14.1937		14.0603		13.3032		12.292	
C. Dish weight	1.2866		1.2798		1.2926		1.2797	
D. Dry sample weight (g)	12.9071		12.7805		12.0106		11.0123	
(B-C)								
E. Sample weight/volume	13.7308		14.4649		13.427		11.2692	
(A-C)								
Result (% or mg/L)	94.00		88.36		89.45		97.72	
% moisture	6.00		11.64		10.55		2.28	
Sample #	3979-18		3979-19		3979-20			
A. Dish and sample (g)	13.6332		15.5054		14.3104			
B. Dried weight (g)	13.3446		15.2717		10.4185			
C. Dish weight	1.2834		1.2817		1.2858			
D. Dry sample weight (g)	12.0612		13.99		9.1327		0	
(B-C)								
E. Sample weight/volume	12.3498		14.2237		13.0246		0	
(A-C)								
Result (% or mg/L)	97.66		98.36		70.12		#DIV/0!	
% moisture	2.34		1.64		29.88		#DIV/0!	

Columbia Analytical Services inc.

Thursday, May 21, 1998

1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L98001064

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 4/8-9/98.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9801064
Project:	Rocketdyne SSFL 313150002	**Date Received:**	4/8-9/98
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Internal Login Summary Report" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via fax from Lisa Arrasmith on 4/9/98:
Take RS744 off of hold and analyze for Barium & Silver.

MS/MSD analysis for 8015TPH was performed on sample RS235 from SDG L9801054.

The following difficulties were experienced during analysis of this batch:
Confirmation of Trichloroethene was confirmed for all positive results. The levels found were within a factor of 6 times the PQL, when confirmation analysis was performed several days later, most results were confirmed at lower levels between MDL & PQL (J flagged) most probably due to loss of volatiles. For analysis of Aluminum, Mercury and Zinc, Spike recoveries were not calculated due to high target levels in spiked sample matrix. LCS data was acceptable.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 5/21/98

Columbia Analytical Services -- Canoga Park
INTERNAL LOGIN SUMMARY REPORT (il01)
19-MAY-98 14:51

Service Req. No. L9801064
Client No. 154375
Client Name Ogden Environmental

Project No. 313150002
Project Name Rocketdyne

Bottles: 20 - Canisters/Decore

Bill To: Ogden Environmental
Attn: Accounts Payable
5510 Morehouse Dr.
San Diego, CA 92121

Report To: Ogden Environmental
Anne Freed
5510 Morehouse Dr.
San Diego, CA 92121

P.O. No.
Logged In By JWICKER
ISR Num
COC Received Y
Samples Submitted 08-APR-98 thru 09-APR-98

Site ID
Project Chemist Leo Raab

Note: This Service Request has been invoiced - # 503794

Storage:

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	8021	AG/ICP	BA/ICP	HG/CVAA	ICP-2	PB/ICP	PH	ICP-4	TS GEN	TPH-FC-CA
L9801064-001	RS736	SOIL	08-APR-98	07-MAY-98	III								III	
L9801064-002	RS737	SOIL	08-APR-98	07-MAY-98				III		III			III	
L9801064-003	RS738	SOIL	08-APR-98	07-MAY-98				III		III			III	
L9801064-004	RS739	SOIL	08-APR-98	07-MAY-98	III								III	
L9801064-005	RS740	SOIL	08-APR-98	07-MAY-98				III					III	
L9801064-006	RS741	SOIL	08-APR-98	07-MAY-98	III				III		III		III	III
L9801064-007	RS742	SOIL	08-APR-98	07-MAY-98	III				III				III	III
L9801064-008	RS744	SLUDGE	08-APR-98	07-MAY-98		III	III						III	
L9801064-009	RS745	SLUDGE	08-APR-98	07-MAY-98									III	III
L9801064-010	RS746	SOIL	08-APR-98	07-MAY-98									III	III
L9801064-011	RS763	SOIL	09-APR-98	07-MAY-98						III			III	
L9801064-012	RS764	SLUDGE	09-APR-98	07-MAY-98								III	III	
L9801064-013	RS237	SOIL	09-APR-98	07-MAY-98									III	III
L9801064-014	RS238	SOIL	09-APR-98	07-MAY-98									III	III
L9801064-015	RS239	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-016	RS241	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-017	RS242	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-018	RS243	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-019	RS244	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-020	RS245	SOIL	09-APR-98	07-MAY-98	III								III	

004

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Columbia Analytical Services -- Canoga Park
INTERNAL LOGIN SUMMARY REPORT (il01)
19-MAY-98 14:51

Service Req. No. L9801064
Client No. 154375
Client Name Ogden Environmental

Project No. 313150002
Project Name Rocketdyne

Bottles: 20 - Canisters/Decore

Bill To: Ogden Environmental
Attn: Accounts Payable
5510 Morehouse Dr.
San Diego, CA 92121

Report To: Ogden Environmental
Anne Freed
5510 Morehouse Dr.
San Diego, CA 92121

P.O. No.
Logged In By JWICKER
ISR Num
COC Received Y
Samples Submitted 08-APR-98 thru 09-APR-98

Site ID
Project Chemist Leo Raab

Note: This Service Request has been invoiced - # 503794

Storage:

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	~DIGEST	ZN/ICP	TITLE 22 METALS	TITLE 22 METALS AS/GFAA	TITLE 22 METALS SE/GFAA	TITLE 22 METALS TL/GFAA
L9801064-001	RS736	SOIL	08-APR-98	07-MAY-98						
L9801064-002	RS737	SOIL	08-APR-98	07-MAY-98	III					
L9801064-003	RS738	SOIL	08-APR-98	07-MAY-98	III					
L9801064-004	RS739	SOIL	08-APR-98	07-MAY-98						
L9801064-005	RS740	SOIL	08-APR-98	07-MAY-98	III					
L9801064-006	RS741	SOIL	08-APR-98	07-MAY-98	III		III	III	III	III
L9801064-007	RS742	SOIL	08-APR-98	07-MAY-98	III		III	III	III	III
L9801064-008	RS744	SLUDGE	08-APR-98	07-MAY-98	III					
L9801064-009	RS745	SLUDGE	08-APR-98	07-MAY-98						
L9801064-010	RS746	SOIL	08-APR-98	07-MAY-98						
L9801064-011	RS763	SOIL	09-APR-98	07-MAY-98	III	III				
L9801064-012	RS764	SLUDGE	09-APR-98	07-MAY-98	III					
L9801064-013	RS237	SOIL	09-APR-98	07-MAY-98						
L9801064-014	RS238	SOIL	09-APR-98	07-MAY-98						
L9801064-015	RS239	SOIL	09-APR-98	07-MAY-98						
L9801064-016	RS241	SOIL	09-APR-98	07-MAY-98						
L9801064-017	RS242	SOIL	09-APR-98	07-MAY-98						
L9801064-018	RS243	SOIL	09-APR-98	07-MAY-98						
L9801064-019	RS244	SOIL	09-APR-98	07-MAY-98						
L9801064-020	RS245	SOIL	09-APR-98	07-MAY-98						

005

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Columbia Analytical Services -- Canoga Park
INTERNAL LOGIN SUMMARY REPORT (il01)
19-MAY-98 14:51

Service Req. No. L9801064
Client No. 154375
Client Name Ogden Environmental

Project No. 313150002
Project Name Rocketdyne

Bottles: 20 - Canisters/Decore

Bill To: Ogden Environmental
Attn: Accounts Payable
5510 Morehouse Dr.
San Diego, CA 92121

Report To: Ogden Environmental
Anne Freed
5510 Morehouse Dr.
San Diego, CA 92121

P.O. No.
Logged In By JWICKER
ISR Num
COC Received Y
Samples Submitted 08-APR-98 thru 09-APR-98

Site ID
Project Chemist Leo Raab

Note: This Service Request has been invoiced - # 503794

Storage:

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	TITLE 22 METALS HG/CVAA	TITLE 22 METALS ICP-13
L9801064-001	RS736	SOIL	08-APR-98	07-MAY-98		
L9801064-002	RS737	SOIL	08-APR-98	07-MAY-98		
L9801064-003	RS738	SOIL	08-APR-98	07-MAY-98		
L9801064-004	RS739	SOIL	08-APR-98	07-MAY-98		
L9801064-005	RS740	SOIL	08-APR-98	07-MAY-98		
L9801064-006	RS741	SOIL	08-APR-98	07-MAY-98	III	III
L9801064-007	RS742	SOIL	08-APR-98	07-MAY-98	III	III
L9801064-008	RS744	SLUDGE	08-APR-98	07-MAY-98		
L9801064-009	RS745	SLUDGE	08-APR-98	07-MAY-98		
L9801064-010	RS746	SOIL	08-APR-98	07-MAY-98		
L9801064-011	RS763	SOIL	09-APR-98	07-MAY-98		
L9801064-012	RS764	SLUDGE	09-APR-98	07-MAY-98		
L9801064-013	RS237	SOIL	09-APR-98	07-MAY-98		
L9801064-014	RS238	SOIL	09-APR-98	07-MAY-98		
L9801064-015	RS239	SOIL	09-APR-98	07-MAY-98		
L9801064-016	RS241	SOIL	09-APR-98	07-MAY-98		
L9801064-017	RS242	SOIL	09-APR-98	07-MAY-98		
L9801064-018	RS243	SOIL	09-APR-98	07-MAY-98		
L9801064-019	RS244	SOIL	09-APR-98	07-MAY-98		
L9801064-020	RS245	SOIL	09-APR-98	07-MAY-98		

Comments:

L9801064	REPORT IN DRY WEIGHT.
L9801064	8021: 24 hr TAT.
L9801064	ICP-2: Al,B
L9801064	TPH-FC-CA: 48 hr TAT.
L9801064	TS GEN: % moisture
L9801064-012	ICP-4: Ba,Pb,Zn,Ag Only.

900

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

L9801064

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 735
Date 4 / 8 /98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment: DECANT SLUDGE SAMPLES PRIOR TO TESTING; BLUE CAP = TOP OF SLEEVE

Cooler No:
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample Data

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID
RS 735	ILBS 49 SØ1	0.5	4/8/98	1000	466	
RS 736	ILBS 49 DØ1	0.5		1030	466	-1
RS 737	BSBS 30 SØ1			1050	30	-2
RS 738	BSBS 31 SØ1			1100	31	-3
RS 739	EVBS 32 SØ1			1145	30	-4
RS 740	EVBS 11 SØ1			1230	22	-5
RS 741	EVBS 30 SØ1			1400	32	-6
RS 742	EVBS 30 DØ1			1405	32	-7
RS 743	EVBS 31 SØ1			1415	31	
RS 744	APBSØ3 SØ1			1600	8	-8
RS 745	ABBS18 SØ1			1630	56a	-9
RS 746	ABBS15 SØ3	7		1745	162	-10

Matrix: Soil | Water | Product | SLUDGE

VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	COMMENT	SWMU	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
X		X												*	4.3	HA			1
X															4.3				
							X							*	AHARC				
							X							*	AHARC				
X							X eg								5.2				
							X							†					
X	X						X				X			☆					
X	X						X												
							X							†				X	
	X						X							→	5.6			X	
	X														AHARC				
	X																		

Samplers Signature: KMJ — Date 4/8/98 — Time 1015

Relinquished By: KMJ — Date 4/8/98 — Time 2110

Received By: Janet Dickey — Date 4/8/98 — Time 2110

Relinquished By: — Date — Time

Received By (LAB): — Date — Time

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 7°

* TEST FOR Pb & Hg ONLY
† TEST FOR Hg ONLY
☆ FAX RESULTS TO DIXIE ASAP
→ TEST FOR Ba & Ag ONLY

NOT ON HOLD PER DIXIE 4/9/98 @ 1230 JR

007

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

L9801064

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 763
Date 4 / 9 / 98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ KJ PURCHASING
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* FLUORIDE, ANIONS, AND PH WILL USE ONE AQUEOUS CONTAINER

Cooler No:

QC Level: Level4 TAT: 28 - Day

Preservatives

													HCL, pH<2 4°C	H_2SO_4, pH<2 4°C	4°C	4°C	4°C	4°C	H_2SO_4, pH<2 4°C	4°C	HNO_3, pH<2 4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C					
ULS	Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	Lab ID	Sampling Method	SWMU	Soil	Water	Product	Sludge	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8270R SVOC	8290 DIOXIN	8081C PCBs	3500 FORMALDEHYDE	8330 ORDINANCE	~~6010/7000~~ 6010 ILMO2.1 METALSRT 1RT	~~6010~~ 6A METALSA(AL,B)	7196 CrVI	340.2 FLUORIDE *	300 ANIONS*	9045/9040 pH*		COMMENT	Extra Volume MS/MSD	HOLD	Total # of Bottles
11	RS763	NCBS11SØ2	3	4/9/98	1745	-11	HA	7.8	X												X	X OK						*			1
13	RS764	NCBS12SØ1	0.5	↓	1815	-12	↓	↓				X									X							☆			
8	RS765	NCBS13SØ1	↓		1830							X									X					X				X	
-	RS766	CDQWØ2EØ1	-		1930		G	AII AOC		X							X														2
-	RS767	CFQWØ4EØ1	-	↓	1930		G	KJ 6.4		X				X																	2

KJ 4/9/98

Samplers Signature KMJ	Date 4/9/98	Time 1750
Relinquished By: KMJ	Date 4/9/98	Time 2045
Received By: [signature]	Date 4/9/98	Time 2045
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number:

Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C

* Pb & Zn ONLY
☆ Ba, Pb, Zn, Ag ONLY

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

008

L9801064

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 237
Date 4/9/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* FLUORIDE, ANIONS, AND PH WILL USE ONE AQUEOUS CONTAINER

Cooler No:

QC Level: Level4 TAT: 28 - Day

Preservatives

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	Lab ID	Sampling Method	SWMU	Soil	Water	Product	Sludge	~~8260M~~ 8021 VOC (HCL, pH<2 4°C)	8015OG HYDROCARBON (H2SO4, pH<2 4°C)	8270SIM PAH (4°C)	8270R SVOC (4°C)	8290 DIOXIN (4°C)	8081C PCBs (4°C)	3500 FORMALDEHYDE (H2SO4, pH<2 4°C)	8330 ORDINANCE (4°C)	6010/7000 METALSRT (HNO3, pH<2 4°C)	6010 METALSA(AL,B) (HNO3, pH<2 4°C)	7196 CrVI (4°C)	340.2 FLUORIDE * (4°C)	300 ANIONS* (4°C)	9045/9040 pH* (4°C)	COMMENT	COMMENT	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS237	BVBS27S01	4.5	4/9/98	0810	-13	B	5.13	X					X														+			
RS238	BVBS27D01	4.5		0815	-14		5.13						X														+			
RS239	ILBS50S01	1.0		0915	-15		4.4					X														*				
~~RS240~~	~~ILBS50D01~~	~~1.0~~		~~0920~~								X																		
RS241	ILBS50S02	5.0		0940	-16							X																		
RS242	ILBS51S02	5.0		1030	-17							X																		
RS243	ILBS51S03	7.5		1040	-18							X																		
RS244	ILBS51S01	1.0		1015	-19							X														*				
RS245	ILBS52S01	3.0		1110	-20							X																		
RS246	ILBS52S02	8.0		1120								X																		
RS247	ILBS27S02	1.0		1150								X														*				
~~RS248~~	~~ILBS27S03~~	~~15~~		~~1200~~								X																		

TB

TB

Samplers Signature	Date	Time
Thomas J. [signature]	4/9/98	0800
Relinquished By: Thomas J. [signature]	4/9/98	2000
Received By: KJ	4/9/98	2000
Relinquished By: KMJ	4/9/98	2045
Received By (LAB) [signature]	4/9/98	2045

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C

* Take from bottom of sleeve

+ Bravo Pipeline sample

REV: 1

000

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* Lisa Arrasmith

Date: 4/9/98 There is 1 Page to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change (revised)**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No	EPA Sample ID	Date Collected	Method(s) Originally Requested(a)	Method(s) Now Requested(a)
RS735	RS744	4/8/98	HOLD	Ba & Ag

L9801064-8

(a) Ba = Barium
Ag = Silver

The reason for these changes is:

Incorrectly marked on COC form ____
Lack of sample volume ____
Ogden office personnel require this change X
Other: Containers mislabeled ____

Thank you.

Columbia Analytical Services inc.

Thursday, May 21, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L98001064

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 4/8-9/98.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

CAS CSR #L9801064

Table of Contents

Cover Letter 001
Acronym List 002
Case Narrative 003
Sample Delivery Group Assignment 004-006
Chain of Custodies 007-010
Hydrocarbon Scan / Fuel Characterization Analytical Data 1000-1011
Hydrocarbon Scan / Fuel Characterization Raw Data 2000-2053
Halogenated and Aromatic Volatile Organic Compounds Analytical Data 3000-3023
Halogenated and Aromatic Volatile Organic Compounds Raw Data 4000-4208
Metals Analytical Data 5000-5014
Metals Raw Data 6000-6053
Inorganic Parameters Analytical Data 7000-7002
Inorganic Parameters Raw Data 8000-8003

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9801064
Project:	Rocketdyne SSFL 313150002	**Date Received:**	4/8-9/98
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Internal Login Summary Report" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via fax from Lisa Arrasmith on 4/9/98:
Take RS744 off of hold and analyze for Barium & Silver.

MS/MSD analysis for 8015TPH was performed on sample RS235 from SDG L9801054.

The following difficulties were experienced during analysis of this batch:
Confirmation of Trichloroethene was confirmed for all positive results. The levels found were within a factor of 6 times the PQL, when confirmation analysis was performed several days later, most results were confirmed at lower levels between MDL & PQL (J flagged) most probably due to loss of volatiles. For analysis of Aluminum, Mercury and Zinc, Spike recoveries were not calculated due to high target levels in spiked sample matrix. LCS data was acceptable.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 5/21/98

Columbia Analytical Services -- Canoga Park
INTERNAL LOGIN SUMMARY REPORT (il01)
19-MAY-98 14:51

Service Req. No. L9801064
Client No. 154375
Client Name Ogden Environmental

Project No. 313150002
Project Name Rocketdyne

Bottles: 20 - Canisters/Decore

Bill To: Ogden Environmental
Attn: Accounts Payable
5510 Morehouse Dr.
San Diego, CA 92121

Report To: Ogden Environmental
Anne Freed
5510 Morehouse Dr.
San Diego, CA 92121

P.O. No.
Logged In By JWICKER
ISR Num
COC Received Y
Samples Submitted 08-APR-98 thru 09-APR-98

Site ID
Project Chemist Leo Raab

Note: This Service Request has been invoiced - # 503794

Storage:

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	8021	AG/ICP	BA/ICP	HG/CVAA	ICP-2	PB/ICP	PH	ICP-4	TS GEN	TPH-FC-CA
L9801064-001	RS736	SOIL	08-APR-98	07-MAY-98	III								III	
L9801064-002	RS737	SOIL	08-APR-98	07-MAY-98				III		III			III	
L9801064-003	RS738	SOIL	08-APR-98	07-MAY-98				III		III			III	
L9801064-004	RS739	SOIL	08-APR-98	07-MAY-98	III								III	
L9801064-005	RS740	SOIL	08-APR-98	07-MAY-98				III					III	
L9801064-006	RS741	SOIL	08-APR-98	07-MAY-98	III				III		III		III	III
L9801064-007	RS742	SOIL	08-APR-98	07-MAY-98	III				III				III	III
L9801064-008	RS744	SLUDGE	08-APR-98	07-MAY-98		III	III						III	
L9801064-009	RS745	SLUDGE	08-APR-98	07-MAY-98									III	III
L9801064-010	RS746	SOIL	08-APR-98	07-MAY-98									III	III
L9801064-011	RS763	SOIL	09-APR-98	07-MAY-98						III			III	
L9801064-012	RS764	SLUDGE	09-APR-98	07-MAY-98								III	III	
L9801064-013	RS237	SOIL	09-APR-98	07-MAY-98									III	III
L9801064-014	RS238	SOIL	09-APR-98	07-MAY-98									III	III
L9801064-015	RS239	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-016	RS241	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-017	RS242	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-018	RS243	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-019	RS244	SOIL	09-APR-98	07-MAY-98	III								III	
L9801064-020	RS245	SOIL	09-APR-98	07-MAY-98	III								III	

004

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Columbia Analytical Services -- Canoga Park
INTERNAL LOGIN SUMMARY REPORT (il01)
19-MAY-98 14:51

Service Req. No. L9801064
Client No. 154375
Client Name Ogden Environmental

Project No. 313150002
Project Name Rocketdyne

Bottles: 20 - Canisters/Decore

Bill To: Ogden Environmental
Attn: Accounts Payable
5510 Morehouse Dr.
San Diego, CA 92121

Report To: Ogden Environmental
Anne Freed
5510 Morehouse Dr.
San Diego, CA 92121

P.O. No.
Logged In By JWICKER
ISR Num
COC Received Y
Samples Submitted 08-APR-98 thru 09-APR-98

Site ID
Project Chemist Leo Raab

Note: This Service Request has been invoiced - # 503794

Storage:

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	~DIGEST	ZN/ICP	TITLE 22 METALS	TITLE 22 METALS AS/GFAA	TITLE 22 METALS SE/GFAA	TITLE 22 METALS TL/GFAA
L9801064-001	RS736	SOIL	08-APR-98	07-MAY-98						
L9801064-002	RS737	SOIL	08-APR-98	07-MAY-98	III					
L9801064-003	RS738	SOIL	08-APR-98	07-MAY-98	III					
L9801064-004	RS739	SOIL	08-APR-98	07-MAY-98						
L9801064-005	RS740	SOIL	08-APR-98	07-MAY-98	III					
L9801064-006	RS741	SOIL	08-APR-98	07-MAY-98	III		III	III	III	III
L9801064-007	RS742	SOIL	08-APR-98	07-MAY-98	III		III	III	III	III
L9801064-008	RS744	SLUDGE	08-APR-98	07-MAY-98	III					
L9801064-009	RS745	SLUDGE	08-APR-98	07-MAY-98						
L9801064-010	RS746	SOIL	08-APR-98	07-MAY-98						
L9801064-011	RS763	SOIL	09-APR-98	07-MAY-98	III	III				
L9801064-012	RS764	SLUDGE	09-APR-98	07-MAY-98	III					
L9801064-013	RS237	SOIL	09-APR-98	07-MAY-98						
L9801064-014	RS238	SOIL	09-APR-98	07-MAY-98						
L9801064-015	RS239	SOIL	09-APR-98	07-MAY-98						
L9801064-016	RS241	SOIL	09-APR-98	07-MAY-98						
L9801064-017	RS242	SOIL	09-APR-98	07-MAY-98						
L9801064-018	RS243	SOIL	09-APR-98	07-MAY-98						
L9801064-019	RS244	SOIL	09-APR-98	07-MAY-98						
L9801064-020	RS245	SOIL	09-APR-98	07-MAY-98						

006

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Columbia Analytical Services -- Canoga Park
INTERNAL LOGIN SUMMARY REPORT (il01)
19-MAY-98 14:51

Service Req. No. L9801064
Client No. 154375
Client Name Ogden Environmental

Project No. 313150002
Project Name Rocketdyne

Bottles: 20 - Canisters/Decore

Bill To: Ogden Environmental
Attn: Accounts Payable
5510 Morehouse Dr.
San Diego, CA 92121

Report To: Ogden Environmental
Anne Freed
5510 Morehouse Dr.
San Diego, CA 92121

P.O. No.
Logged In By JWICKER
ISR Num
COC Received Y
Samples Submitted 08-APR-98 thru 09-APR-98

Site ID
Project Chemist Leo Raab

Note: This Service Request has been invoiced - # 503794

Storage:

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	TITLE 22 METALS HG/CVAA	TITLE 22 METALS ICP-13
L9801064-001	RS736	SOIL	08-APR-98	07-MAY-98		
L9801064-002	RS737	SOIL	08-APR-98	07-MAY-98		
L9801064-003	RS738	SOIL	08-APR-98	07-MAY-98		
L9801064-004	RS739	SOIL	08-APR-98	07-MAY-98		
L9801064-005	RS740	SOIL	08-APR-98	07-MAY-98		
L9801064-006	RS741	SOIL	08-APR-98	07-MAY-98	III	III
L9801064-007	RS742	SOIL	08-APR-98	07-MAY-98	III	III
L9801064-008	RS744	SLUDGE	08-APR-98	07-MAY-98		
L9801064-009	RS745	SLUDGE	08-APR-98	07-MAY-98		
L9801064-010	RS746	SOIL	08-APR-98	07-MAY-98		
L9801064-011	RS763	SOIL	09-APR-98	07-MAY-98		
L9801064-012	RS764	SLUDGE	09-APR-98	07-MAY-98		
L9801064-013	RS237	SOIL	09-APR-98	07-MAY-98		
L9801064-014	RS238	SOIL	09-APR-98	07-MAY-98		
L9801064-015	RS239	SOIL	09-APR-98	07-MAY-98		
L9801064-016	RS241	SOIL	09-APR-98	07-MAY-98		
L9801064-017	RS242	SOIL	09-APR-98	07-MAY-98		
L9801064-018	RS243	SOIL	09-APR-98	07-MAY-98		
L9801064-019	RS244	SOIL	09-APR-98	07-MAY-98		
L9801064-020	RS245	SOIL	09-APR-98	07-MAY-98		

Comments:

L9801064	REPORT IN DRY WEIGHT.
L9801064	8021: 24 hr TAT.
L9801064	ICP-2: Al,B
L9801064	TPH-FC-CA: 48 hr TAT.
L9801064	TS GEN: % moisture
L9801064-012	ICP-4: Ba,Pb,Zn,Ag Only.

900

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

L9801064

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 735
Date 4 / 8 /98 Page 1 of 1

Project Manager:	Dixie Hambrick	Bill To:	Purchasing
Project Name:	Rocketdyne	Company:	Ogden Environmental
Project Number:	313150002	Address:	5510 Morehouse Drive, San Diego, CA 92121
Deliver results to the address above or as stated in contract			

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment: DECANT SLUDGE SAMPLES PRIOR TO TESTING; BLUE CAP = TOP OF SLEEVE

Cooler No:
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	SLUDGE	~~8260M~~ 8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	COMMENT	SWMU	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS 735	1LBS49 SØ1	0.5	4/8/98	1000	46b		X				X		X													4.3	HA			1
RS 736	1LBS 49 DØ1	0.5		1030	46b	-1					X															4.3				
RS 737	BSBS 30 SØ1			1050	30	-2												X							*	AI ADC				
RS 738	BSBS 31 SØ1			1100	31	-3												X							*	AI ADC				
RS 739	EVBS 32 SØ1			1145	30	-4					X							X								5.2				
RS 740	EVBS11 SØ1			1230	22	-5												X							†					
RS 741	EVBS 30 SØ1			1400	32	-6					X	X						X				X			☆					
RS 742	EVBS 30 DØ1			1405	32	-7					X	X						X												
RS 743	EVBS 31 SØ1			1415	31													X							†				X	
RS 744	APBSØ3 SØ1			1600	8	-8				X								X							→	5.6			X	
RS 745	ABBS18 SØ21			1630	56a	-9				X		X														AII ADC				
RS 746	ABBS15 SØ3	7		1745	62	-10	X					X																		

	Date	Time
Samplers Signature: KMJ	4/8/98	1015
Relinquished By: KMJ	4/8/98	2110
Received By: [signature]	4/8/98	2110
Relinquished By:		
Received By (LAB):		

For Lab Use

Lab Number:
Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 7°

* TEST FOR Pb & Hg ONLY
† TEST FOR Hg ONLY
☆ FAX RESULTS TO DIXIE ASAP
→ TEST FOR Ba & Ag ONLY

NOT ON HOLD PER DIXIE 4/9/98@1230 [initials]

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

007

L9801064

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 763
Date 4 / 9 / 98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ KJ PURCHASING
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* FLUORIDE, ANIONS, AND PH WILL USE ONE AQUEOUS CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	28 - Day

Preservatives

													HCL, pH<2 4°C	H2SO4, pH<2 4°C	4°C	4°C	4°C	4°C	H2SO4, pH<2 4°C	4°C	HNO3, pH<2 4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C					
ULS	Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	Lab ID	Sampling Method	SWMU	Soil	Water	Product	Sludge	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8270R SVOC	8290 DIOXIN	8081C PCBs	3500 FORMALDEHYDE	8330 ORDINANCE	~~6010/7000~~ ILMO2 METALSRT IRT	~~6010~~ METALSA(AL,B)	7196 CrVI	340.2 FLUORIDE *	300 ANIONS*	9045/9040 pH*		COMMENT	Extra Volume MS/MSD	HOLD	Total # of Bottles
11	RS763	NCBS11SØ2	3	4/9/98	1745	-11	HA	7.8	X												X	X OK						*			1
13	RS764	NCBS12SØ1	0.5	↓	1815	-12	↓	↓				X									X							☆			
8	RS765	NCBS13SØ1	↓	↓	1830	—	↓	↓				X									X					X				X	
-	RS766	CDQWØ2EØ1	-	↓	1930	—	G	AII AOC		X							X														2
-	RS767	CFQWØ4EØ1	-	↓	1930	—	G	KJ 6.4		X				X																	2

KJ 4/9/98

Samplers Signature: KMJ	Date 4/9/98	Time 1750
Relinquished By: KMJ	Date 4/9/98	Time 2045
Received By: [signature]	Date 4/9/98	Time 2045
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number:

Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C

* Pb & Zn ONLY
☆ Ba, Pb, Zn, Ag ONLY

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

008

L9801064

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 237
Date 4/9/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ JS Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* FLUORIDE, ANIONS, AND PH WILL USE ONE AQUEOUS CONTAINER

Cooler No:
QC Level: Level4 TAT: 28 - Day

Preservatives

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	Lab ID	Sampling Method	SWMU	Soil	Water	Product	Sludge	~~8260M~~ 8021 VOC (HCL, pH<2 4°C)	8015OG HYDROCARBON (H2SO4, pH<2 4°C)	8270SIM PAH (4°C)	8270R SVOC (4°C)	8290 DIOXIN (4°C)	8081C PCBs (4°C)	3500 FORMALDEHYDE (H2SO4, pH<2 4°C)	8330 ORDINANCE (4°C)	6010/7000 METALSRT (HNO3, pH<2 4°C)	6010 METALSA(AL,B) (HNO3, pH<2 4°C)	7196 CrVI (4°C)	340.2 FLUORIDE * (4°C)	300 ANIONS* (4°C)	9045/9040 pH* (4°C)	COMMENT	COMMENT	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS237	BVBS27S01	4.5	4/9/98	0810	-13	B	5.13	X					X														+			
RS238	BVBS27D01	4.5		0815	-14		5.13						X														+			
RS239	ILBS50S01	1.0		0915	-15		4.4					X														*				
~~RS240~~	~~ILBS50D01~~	~~1.0~~		~~0920~~								X																		
RS241	ILBS50S02	5.0		0940	-16							X																		
RS242	ILBS51S02	5.0		1030	-17							X																		
RS243	ILBS51S03	7.5		1040	-18							X																		
RS244	ILBS51S01	1.0		1015	-19							X														*				
RS245	ILBS52S01	3.0		1110	-20							X																		
RS246	ILBS52S02	8.0		1120								X																		
RS247	ILBS27S02	1.0		1150								X														*				
~~RS248~~	~~ILBS27S03~~	~~7.5~~		~~1200~~								X																		

TB

TB

Samplers Signature: Thomas J. [signature]	Date 4/9/98	Time 0800
Relinquished By: Thomas J. [signature]	Date 4/9/98	Time 2000
Received By: KJ	Date 4/9/98	Time 2000
Relinquished By: KMJ	Date 4/9/98	Time 2045
Received By (LAB): [signature]	Date 4/9/98	Time 2045

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C

* Take from bottom of sleeve
+ Bravo Pipeline sample

REV: 1

000

OGDEN ENVIRONMENTAL AND ENERGY SERVICE

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* Lisa Arrasmith

Date: 4/9/98 There is 1 Page to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change (revised)**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No	EPA Sample ID	Date Collected	Method(s) Originally Requested(a)	Method(s) Now Requested(a)
RS735	RS744	4/8/98	HOLD	Ba & Ag

L9801064-8

(a) Ba = Barium
Ag = Silver

The reason for these changes is:

Incorrectly marked on COC form ____
Lack of sample volume ____
Ogden office personnel require this change X
Other: Containers mislabeled ____

Thank you.

Columbia Analytical Services, Inc.

Tuesday, March 17, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9800225

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 1/27-28/98.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

CAS CSR #L9800225

Table of Contents

Cover Letter 001
Case Narrative 002
Acronym List 002A
Sample Delivery Group Assignment 003
Chain of Custodies 004-007
Hydrocarbon Scan/Fuel Characterization Analytical Data 1000-1019
Hydrocarbon Scan/Fuel Characterization Raw Data 2000-2072
Halogenated and Aromatic Volatile Organic Compounds Analytical Data 3000-3017
Halogenated and Aromatic Volatile Organic Compounds Raw Data 4000-4183
Metals Analytical Data 5000-5005
Metals Raw Data 6000-6045
Inorganic Parameters Analytical Data 7000-7008
Inorganic Parameters Raw Data 8000-8004

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9800225
Project:	Rocketdyne SSFL 313150002	**Date Received:**	1/27-28/98
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

MS/MSD analysis for Hexavalent Chromium was performed on sample RS677 from SDG L9800209.

No difficulties were experienced during analysis of this batch.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 3/17/98

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9800225**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 1/28/98
SUMMARY / FINAL DUE: 2/11/98 / 2/25/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8021 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471			ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RS681**	1/27/98	1/27/98	SOLID		X							X													
2	**RS163**	1/27/98	1/27/98	SOLID		X		X																		
3	**RS164**	1/27/98	1/27/98	SOLID		X		X																		
4	**RS165**	1/27/98	1/27/98	SOLID		X		X																		
5	**RS166**	1/27/98	1/27/98	SOLID		X						X				X										
6	**RS167**	1/27/98	1/27/98	SOLID		X						X				X										
7	**RS168**	1/27/98	1/27/98	SOLID		X		X																		
8	**RS169**	1/27/98	1/27/98	SOLID		X		X																		
9	**RS170**	1/27/98	1/27/98	SOLID		X	X																			
10	**RS171**	1/27/98	1/27/98	SOLID		X	X																			
11	**RS172**	1/27/98	1/27/98	SOLID		X	X																			
12	**RS173**	1/27/98	1/27/98	SOLID		X	X																			
13	**RS174**	1/27/98	1/27/98	SOLID		X	X																			
14	**RS175**	1/27/98	1/27/98	SOLID		X	X																			
15	**RS176**	1/28/98	1/28/98	SOLID		X		X																		
16	**RS177**	1/28/98	1/28/98	SOLID		X		X																		
17	**RS178**	1/28/98	1/28/98	SOLID		X		X																		
18	**RS179**	1/28/98	1/28/98	SOLID		X		X																		
19	**RS180**	1/28/98	1/28/98	SOLID		X		X																		
20	**RS181**	1/28/98	1/28/98	SOLID		X		X																		

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 680
Date 1 / 27 / 98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4, pH<2 4°C | 4°C | HNO3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

SWMU 7.8 ↓

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Matrix: Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	#	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS 680	NCBS11SØ1	0.5'	1/27/98	1630	11	20	X										★								HA			1
RS 6081	NCBSØ2SØ1	0.5'	↓	1700	1	1	X											X							HA			

KJ 1/27/98

Samplers Signature	KMJ	Date 1/27/98	Time 1630
Relinquished By:	KMJ	Date 1/27/98	Time 2015
Received By:		Date 1/27/98	Time 2015
Relinquished By:		Date	Time
Received By (LAB):		Date	Time

For Lab Use

Lab Number:

★ Pb, Zn, Ag, & Ba ONLY

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 7

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

004

C9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS163
Date 01/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:		
QC Level: Level4	TAT: 35 - Day	

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C								

ULS#	Sample ID	Description (for Ogden use only) (33) DEAH	Date Collected	Time Collected	Lab ID	Soil	Water	Product	~~8260~~ 8021 VOC	8015OC HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE	300 CHLORIDE	9045/9040 pH	SW MU			Extra Volume MS/MSD	HOLD	Total # of Bottles
23	RS163	CAB5255Φ1	5.Φ	01/27/98	Φ815	X				1											5.18/5.19					1
	RS164	CAB5255Φ2	10.0		Φ830	X				1											↓					1
	RS165	CAB5255Φ3	17.5		Φ845	X				1																1
39a	RS166	LFB5255Φ1	3.Φ		1040	X									1					1	4.12					1
48	RS167	LFBS255Φ2	4.Φ		1055	X									1					1	↓					1
49	RS168	AAB54ΦSΦ1	5.Φ		1230	X				1											5.9,2 DB					1
↓	RS169	AAB54ΦSΦ2	1.Φ		1240	X				1											↓					1
27a	RS170	CLBS535Φ1	2.Φ		1450	X			1												4.7					1
	RS171	CLBS535Φ2	7.5		1510	X			1																	1
↓	RS172	CLBS535Φ2	6.5	↓	1545	X			1												↓					1
DB	RS173	~~CLBS54~~																								
48	RS173	~~CLBS545Φ1~~ CLBS545Φ1	2.Φ	01/27/98	1550	X			1												4.7					1

Samplers Signature		Date 01/27/98	Time 1830
Relinquished By:		Date 01/27/98	Time 1904
Received By:		Date 1/27/98	Time 1904
Relinquished By:		Date 1/27/98	Time 2013
Received By (Lab):		Date 1/27/98	Time 2013

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 1

NOTE: RS166 = LFBS335Φ1 D3.Φ

REV: 1

560

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC R5174
Date 01/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

ULS#	Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Matrix: Soil	Matrix: Water	Matrix: Product	~~8260M~~ 8021 VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	SWMU	Extra Volume MS/MSD	HOLD	Total # of Bottles
40	R5174	CLB554502	8.0	01/27/98	1610	13	X			1												4.7			1
↓	R5175	CLB554503	13.5	↓	1630	14	X			1												↓			1

DB 01/27/97

	Date	Time
Samplers Signature: [signature]	01/27/98	1830
Relinquished By: [signature]	01/27/98	1904
Received By: Tom Burt	1/27/98	1904
Relinquished By: Tom Burt	1/27/98	2013
Received By (LAB): [signature]	1/27/98	2013

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 7°

REV: 1

000

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS176
Date 1/28/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:		
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package	

SWMU 4.15

| Sample Data | | | | | | | | Matrix | | | | Preservatives | | | | | | | |

Columbia Analytical Services inc.

Tuesday, March 17, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9800225

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 1/27-28/98.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

6925 Canoga Avenue ▪ Canoga Park, CA 91303 ▪ (818) 587-5550 ▪ Fax (818) 587-5555

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9800225
Project:	Rocketdyne SSFL 313150002	**Date Received:**	1/27-28/98
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

MS/MSD analysis for Hexavalent Chromium was performed on sample RS677 from SDG L9800209.

No difficulties were experienced during analysis of this batch.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 3/17/98

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9800225**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 1/28/98
SUMMARY / FINAL DUE: 2/11/98 / 2/25/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8021 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471			ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	RS681	1/27/98	1/27/98	SOLID		X							X													
2	RS163	1/27/98	1/27/98	SOLID		X		X																		
3	RS164	1/27/98	1/27/98	SOLID		X		X																		
4	RS165	1/27/98	1/27/98	SOLID		X		X																		
5	RS166	1/27/98	1/27/98	SOLID		X						X				X										
6	RS167	1/27/98	1/27/98	SOLID		X						X				X										
7	RS168	1/27/98	1/27/98	SOLID		X		X																		
8	RS169	1/27/98	1/27/98	SOLID		X		X																		
9	RS170	1/27/98	1/27/98	SOLID		X	X																			
10	RS171	1/27/98	1/27/98	SOLID		X	X																			
11	RS172	1/27/98	1/27/98	SOLID		X	X																			
12	RS173	1/27/98	1/27/98	SOLID		X	X																			
13	RS174	1/27/98	1/27/98	SOLID		X	X																			
14	RS175	1/27/98	1/27/98	SOLID		X	X																			
15	RS176	1/28/98	1/28/98	SOLID		X		X																		
16	RS177	1/28/98	1/28/98	SOLID		X		X																		
17	RS178	1/28/98	1/28/98	SOLID		X		X																		
18	RS179	1/28/98	1/28/98	SOLID		X		X																		
19	RS180	1/28/98	1/28/98	SOLID		X		X																		
20	RS181	1/28/98	1/28/98	SOLID		X		X																		

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 6680
Date 1 / 27 / 98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4, pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

SWMU 7.8 ↓

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Matrix: Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	# of Containers	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS 6680	NCBS11S01	0.5'	1/27/98	1630	11	20	X										*								HA			1
RS 6681	NCBS01S2S01	0.5'	↓	1700	1	1	X											X							HA			

KJ, 1/27/98

Samplers Signature: KMJ — Date 1/27/98 — Time 1630

Relinquished By: KMJ — Date 1/27/98 — Time 2015

Received By: [signature] — Date 1/27/98 — Time 2015

Relinquished By: — Date — Time

Received By (LAB): — Date — Time

For Lab Use

Lab Number:

* Pb, Zn, Ag, & Ba ONLY

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 7

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

004

C9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS163
Date 01/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

DLS#	Sample ID	Description (for Ogden use only) (33)	DEATH	Date Collected	Time Collected	Lab ID	Soil	Water	Product	~~8260M~~ 8021 VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	SW MU	Extra Volume MS/MSD	HOLD	Total # of Bottles
23	RS163	CABS25S01	5.0	01/27/98	0815	2	X				1											5.18/5.19			1
	RS164	CABS25S02	10.0		0830	3	X				1														1
	RS165	CABS25S03	17.5		0845	4	X				1														1
39a	RS166	LFBS24S01	3.0		1040	5	X									1					1	4.12			1
40	RS167	LFBS24S02	4.0		1055	6	X									1					1				1
49	RS168	AABS40S01	5.0		1230	7	X				1											5.9, DB			1
	RS169	AABS40S02	11.0		1240	8	X				1														1
27a	RS170	CLBS53S01	2.0		1450	9	X			1												4.7			1
	RS171	CLBS53S02	7.5		1510	10	X			1															1
	RS172	CLBS53S02	6.5		1505	11	X			1															1
DCB	~~RS173~~	~~CLBS534~~																							
40	RS173	~~CLBS54S01~~ CLBS54S01	2.0	01/27/98	1550	12	X			1												4.7			1

Samplers Signature	Date 01/27/98	Time 1830
Relinquished By:	Date 01/27/98	Time 1904
Received By:	Date 1/27/98	Time 1904
Relinquished By:	Date 1/27/98	Time 2013
Received By (LAB):	Date 1/27/98	Time 2013

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 1

NOTE: RS166 = LFBS33S01 D3.0

REV: 1

005

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC R5174
Date 01/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

ULS#	Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Matrix: Soil	Matrix: Water	Matrix: Product	~~8260M~~ 8021 VOC DB	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	SWMU	Extra Volume MS/MSD	HOLD	Total # of Bottles
40	R5174	CLBS54502	8.0	01/27/98	1610	13	X			1												4.7			1
↓	R5175	CLBS54503	13.5	↓	1630	14	X			1												↓			1

DB 01/27/97

	Date	Time
Samplers Signature: [signature]	01/27/98	1830
Relinquished By: [signature]	01/27/98	1904
Received By: Tom Burt	1/27/98	1904
Relinquished By: Tom Burt	1/27/98	2013
Received By (LAB): [signature]	1/27/98	2013

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 7°

REV: 1

900

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS176
Date 1/28/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

SWMU 4.15

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS176	BABS45S01	5.5	1/28/98	1155	53	15	X				X													B			
RS177	BABS45S02	10		1205	↓	16					X													↓			
RS178	BABS39S01	5		1445	55	17					X																
RS179	BABS39S02	10		1455		18					X																
RS180	BABS39S03	15		1515		19					X																
RS181	BABS39S04	20		1540		20					X																
RS182	BABS~~39~~ 39S05	25		1610							X																
RS183	BABS~~39~~ 39S06	30		1630							X																
RS184	BAQW03E01	—	↓	1700	↓		~~X~~		X		X													1			2

T.B. 1/28/98

Samplers Signature: Thomas J. Brant	Date: 1/28/98	Time: 1000
Relinquished By: Thomas J. Brant	Date: 1/28/98	Time: 1842
Received By: Jeff Dickson	Date: 1/28/98	Time: 1842
Relinquished By:	Date:	Time:
Received By (LAB):	Date:	Time:

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 7°

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

2000

Columbia Analytical Services inc.

Tuesday, March 17, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

N 3

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9800225

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 1/27-28/98.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9800225
Project:	Rocketdyne SSFL 313150002	**Date Received:**	1/27-28/98
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

MS/MSD analysis for Hexavalent Chromium was performed on sample RS677 from SDG L9800209.

No difficulties were experienced during analysis of this batch.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 3/17/98

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9800225**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 1/28/98
SUMMARY / FINAL DUE: 2/11/98 / 2/25/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8021 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471			ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RS681**	1/27/98	1/27/98	SOLID		X							X													
2	**RS163**	1/27/98	1/27/98	SOLID		X		X																		
3	**RS164**	1/27/98	1/27/98	SOLID		X		X																		
4	**RS165**	1/27/98	1/27/98	SOLID		X		X																		
5	**RS166**	1/27/98	1/27/98	SOLID		X						X				X										
6	**RS167**	1/27/98	1/27/98	SOLID		X						X				X										
7	**RS168**	1/27/98	1/27/98	SOLID		X		X																		
8	**RS169**	1/27/98	1/27/98	SOLID		X		X																		
9	**RS170**	1/27/98	1/27/98	SOLID		X	X																			
10	**RS171**	1/27/98	1/27/98	SOLID		X	X																			
11	**RS172**	1/27/98	1/27/98	SOLID		X	X																			
12	**RS173**	1/27/98	1/27/98	SOLID		X	X																			
13	**RS174**	1/27/98	1/27/98	SOLID		X	X																			
14	**RS175**	1/27/98	1/27/98	SOLID		X	X																			
15	**RS176**	1/28/98	1/28/98	SOLID		X		X																		
16	**RS177**	1/28/98	1/28/98	SOLID		X		X																		
17	**RS178**	1/28/98	1/28/98	SOLID		X		X																		
18	**RS179**	1/28/98	1/28/98	SOLID		X		X																		
19	**RS180**	1/28/98	1/28/98	SOLID		X		X																		
20	**RS181**	1/28/98	1/28/98	SOLID		X		X																		

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 6080
Date 1 / 27 / 98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	-
Comment:	

Cooler No:		
QC Level:	Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						

Sample Data							Matrix				8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ		# of Containers	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product																					
RS 6080	NCBS11SØ1	0.5'	1/27/98	1630	11	20	X											*									HA			1
RS6081	NCBSØ[illegible]2SØ1	0.5'	↓	1700	1	1	X												X								HA			
								KMJ 1/27/98																						

SWMU 7.8 ↓

Samplers Signature	KMJ	Date 1/27/98	Time 1630
Relinquished By:	KMJ	Date 1/27/98	Time 2015
Received By:	[signature]	Date 1/27/98	Time 2015
Relinquished By:		Date	Time
Received By (LAB):		Date	Time

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 7

* Pb, Zn, Ag, & Ba ONLY

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

004

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

C9800225

Chain of Custody

Control Number: COC RS163
Date 01/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C

LS#	Sample ID	Description (for Ogden use only) (33) DEATH	Date Collected	Time Collected	Lab ID	Soil	Water	Product	~~8260M~~ 8021 VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	5W MU	Extra Volume MS/MSD	HOLD	Total # of Bottles
23	RS163	CABS255Φ1	5.Φ	01/27/98	Φ815	X				1											5.18/5.19			1
	RS164	CABS255Φ2	10.Φ		Φ830	X				1														1
	RS165	CABS255Φ3	17.5		Φ845	X				1														1
39a	RS166	LFBS255Φ1	3.Φ		1040	X									1				1		4.12			1
48	RS167	LFBS245Φ2	4.Φ		1055	X									1				1					1
49	RS168	AABS540Φ1	5.Φ		1230	X				1											5.9 DB			1
	RS169	AABS540Φ2	1.Φ		1240	X				1														1
27a	RS170	CLBS535Φ1	2.Φ		1450	X			1												4.7			1
	RS171	CLBS535Φ2	7.5		1510	X			1															1
	RS172	CLBS535Φ2	6.5		1545	X			1															1
DB	RS173	~~CLBS534~~																						
48	RS173	~~CLBS534~~ CLBS545Φ1	2.Φ	01/27/98	1550	X			1												4.7			1

Samplers Signature		Date	Time
		01/27/98	1830
Relinquished By:		Date	Time
		01/27/98	1904
Received By:		Date	Time
		1/27/98	1904
Relinquished By:		Date	Time
		1/27/98	2013
Received By (LAB):		Date	Time
		1/27/98	2013

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 1

NOTE: RS166 = LFBS335Φ1 D3.Φ

REV: 1

5630

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS174
Date 01/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:		
QC Level: Level4	TAT: 35 - Day	

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

JLS# 4Φ ↓

| Sample Data | | | | | | Matrix | | | | | |

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS176
Date 1/28/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

SWMU 1.15

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS176	BABS45S01	5.5	1/28/98	1155	53	15	X				X													B			
RS177	BABS45S02	10		1205	↓	16					X																
RS178	BABS39S01	5		1445	55	17					X																
RS179	BABS39S02	10		1455		18					X																
RS180	BABS39S03	15		1515		19					X																
RS181	BABS39S04	20		1540		20					X																
RS182	BABS~~40~~39S05	25		1610							X																
RS183	BABS~~39~~40S06	30		1630							X																
RS184	BAQW03E01	—	↓	1700	↓		~~X~~		X		X													1			2

T.B. 1/28/98

Samplers Signature: Thomas J. Burt	1/28/98	1000
Relinquished By: Thomas J. Burt	1/28/98	1842
Received By: Jeffrey J. Dickson	1/28/98	1842
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number:

Do COC match samples (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 7.0

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

L800

Columbia Analytical Services, Inc.

Tuesday, March 17, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9800225

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 1/27-28/98.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

CAS CSR #L9800225

Table of Contents

Cover Letter 001
Case Narrative 002
Acronym List 002A
Sample Delivery Group Assignment 003
Chain of Custodies 004-007
Hydrocarbon Scan/Fuel Characterization Analytical Data 1000-1019
Hydrocarbon Scan/Fuel Characterization Raw Data 2000-2072
Halogenated and Aromatic Volatile Organic Compounds Analytical Data 3000-3017
Halogenated and Aromatic Volatile Organic Compounds Raw Data 4000-4183
Metals Analytical Data 5000-5005
Metals Raw Data 6000-6045
Inorganic Parameters Analytical Data 7000-7008
Inorganic Parameters Raw Data 8000-8004

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9800225
Project:	Rocketdyne SSFL 313150002	**Date Received:**	1/27-28/98
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

MS/MSD analysis for Hexavalent Chromium was performed on sample RS677 from SDG L9800209.

No difficulties were experienced during analysis of this batch.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: JKRod Date: 3/17/98

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9800225**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 1/28/98
SUMMARY / FINAL DUE: 2/11/98 / 2/25/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8021 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471			ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RS681**	1/27/98	1/27/98	SOLID		X							X													
2	**RS163**	1/27/98	1/27/98	SOLID		X		X																			
3	**RS164**	1/27/98	1/27/98	SOLID		X		X																			
4	**RS165**	1/27/98	1/27/98	SOLID		X		X																			
5	**RS166**	1/27/98	1/27/98	SOLID		X						X				X											
6	**RS167**	1/27/98	1/27/98	SOLID		X						X				X											
7	**RS168**	1/27/98	1/27/98	SOLID		X		X																			
8	**RS169**	1/27/98	1/27/98	SOLID		X		X																			
9	**RS170**	1/27/98	1/27/98	SOLID		X	X																				
10	**RS171**	1/27/98	1/27/98	SOLID		X	X																				
11	**RS172**	1/27/98	1/27/98	SOLID		X	X																				
12	**RS173**	1/27/98	1/27/98	SOLID		X	X																				
13	**RS174**	1/27/98	1/27/98	SOLID		X	X																				
14	**RS175**	1/27/98	1/27/98	SOLID		X	X																				
15	**RS176**	1/28/98	1/28/98	SOLID		X		X																			
16	**RS177**	1/28/98	1/28/98	SOLID		X		X																			
17	**RS178**	1/28/98	1/28/98	SOLID		X		X																			
18	**RS179**	1/28/98	1/28/98	SOLID		X		X																			
19	**RS180**	1/28/98	1/28/98	SOLID		X		X																			
20	**RS181**	1/28/98	1/28/98	SOLID		X		X																			

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 6080
Date 1 / 27 / 98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Matrix: Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	# of Containers	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
SWMJ 7.8 ↓																											
RS 6080	NCBS11SØ1	0.5'	1/27/98	1630	11	20	X										X								HA			1
RS 6081	NCBSØ2.5Ø1	0.5'	↓	1700	1	1	X											X							HA			

KJ 1/27/98

	Date	Time
Samplers Signature: KMJ	1/27/98	1630
Relinquished By: KMJ	1/27/98	2015
Received By:	1/27/98	2015
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number:

* Pb, Zn, Ag, & Ba ONLY

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 7

004

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

C9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC R5163
Date 01/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffler~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C								

LS#	Sample ID	Description (for Ogden use only)	Date Collected	Time Collected	Lab ID	Soil	Water	Product	~~8260M~~ 8021 VOC	8015OC HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE*	9045/9040 pH	SW MU			Extra Volume MS/MSD	HOLD	Total # of Bottles
23	RS163	CABS255Q1	5.0	01/27/98	0815	X				1											5.1B/5.19					1
	RS164	CABS255Q2	10.0		0830	X				1																1
	RS165	CABS255Q3	17.5		0845	X				1																1
39a	RS166	LFBS245Q1	3.0		1040	X									1					1	4.12					1
48	RS167	LFBS245Q2	4.0		1055	X									1					1						1
49	RS168	AABS40SQ1	5.0		1230	X				1											5.9,2 DB					1
27a	RS169	AABS40SQ2	1/0		1240	X				1																1
	RS170	CLBS535Q1	2.0		1450	X			1												4.7					1
	RS171	CLBS535Q2	7.5		1510	X			1																	1
	RS172	CLBS535Q2	6.5		1545	X			1																	1
DB	RS173	~~CLBS584~~																								
48	RS173	~~CLBS545Q1~~ CLBS545Q1	2.0	01/27/98	1550	X			1												4.7					1

Samplers Signature		Date	Time
		01/27/98	1830
Relinquished By:		Date	Time
		01/27/98	1904
Received By:		Date	Time
		1/27/98	1904
Relinquished By:		Date	Time
		1/27/98	2013
Received By (Lab):		Date	Time
		1/27/98	2013

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 1

NOTE: RS166 = LFBS335Q1 D3.0

REV: 1

960

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS174
Date 01/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:		
QC Level: Level4	TAT: 35 - Day	

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C

| Sample Data | | | | | | Matrix | | | | | |

L9800225

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS176
Date 1/28/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	

Cooler No:

QC Level: Level4

TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

SWMV

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Matrix: Soil	Matrix: Water	Matrix: Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS176	BABS45SØ1	5.5	1/28/98	1155	53	15	X				X													B			
RS177	BABS45SØ2	10		1205		16					X																
RS178	BABS39SØ1	5		1445	55	17					X																
RS179	BABS39SØ2	10		1455		18					X																
RS180	BABS39SØ3	15		1515		19					X																
RS181	BABS39SØ4	20		1540		20					X																
RS182	BABS39SØ5	25		1610							X																
RS183	BABS39SØ6	30		1630							X																
RS184	BAQWØ3EØ1	—		1700			2 TB	X			X													—			2

T.B. 1/28/98

	Date	Time
Samplers Signature: Thomas J. Brit	1/28/98	1000
Relinquished By: Thomas J. Brit	1/28/98	1842
Received By: Jerry Dicker	1/28/98	1842
Relinquished By:		
Received By (LAB):		

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 7°

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

007

Columbia Analytical Services inc.

Thursday, March 19, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9800209

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 1/26-27/98.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

CAS CSR #L9800209

Table of Contents

Cover Letter 001
Acronym List 002
Case Narrative 003
Sample Delivery Group Assignment 004
Chain of Custodies 005-009
Semivolatile Organic Compounds (SIM) Analytical Data 1000-1006
Semivolatile Organic Compounds (SIM) Raw Data 2000-2028
Semivolatile Organic Compounds Analytical Data 3000-3009
Semivolatile Organic Compounds Raw Data 4000-4043
Hydrocarbon Scan/Fuel Characterization Analytical Data 5000-5010
Hydrocarbon Scan/Fuel Characterization Raw Data 6000-6043
Halogenated and Aromatic Volatile Organic Compounds Analytical Data 7000-7010
Halogenated and Aromatic Volatile Organic Compounds Raw Data 8000-8144
Metals Analytical Data 9000-9021
Metals Raw Data 10000-10056
Inorganic Parameters Analytical Data 11000-11004
Inorganic Parameters Raw Data 12000-12003
Columbia Analytical Services, Inc.-San Jose, CA Perchlorates ..... Appendix A
Triangle Laboratories Dioxins/Furans ..... Appendix B
ALTA Analytical Laboratory Dioxins/Furans ..... Appendix C

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9800209
Project:	Rocketdyne SSFL 313150002	**Date Received:**	1/26-27/98
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Perchlorate	Columbia Analytical Services, San Jose, CA.
Dioxins/Furans/EPA 8290	Triangle Lab, Durham, NC.
Dioxins/Furans/EPA 8290	Alta Analytical, El Dorado Hills, CA.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via fax from Lisa Arrasmith on 2/20/98:
Analyze "on-hold" split sample RS658 at Alta Analytical for Dioxin/Furan.

MS/MSD analysis for 8270SIM was performed on sample RS699 from SDG L9800238.
MS/MSD analysis for 8270R was performed on a non-Ogden sample HSPC-11 from SDG L9800187.
MS/MSD analysis for 8015TPH was performed on sample RS164 from SDG L9800225.
MS/MSD analysis for 8021VOC was performed on sample RS170 from SDG L9800225.

The following difficulties were experienced during analysis of this batch:
Surrogate for 8270R were below range for one of six surrogates (2,4,6-Tribromophenol) for non-Ogden sample HSPC-11 and slightly above range for one of six surrogates (Terphenyl-d14) for method blank.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 3/19/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9800209**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 1/27/98
SUMMARY / FINAL DUE: 2/10/98 / 2/24/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8021 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	ARSENIC	LEAD	BARIUM	SILVER	ZINC	ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	RS657	1/26/98	1/26/98	SOLID		X																X				
2	RS658	1/26/98	1/26/98	SOLID		X																			X		
3	RS659	1/26/98	1/26/98	SOLID		X																			X		
4	RS661	1/26/98	1/26/98	SOLID		X	X																				
5	RS662	1/26/98	1/26/98	SOLID		X			X																		
6	RS663	1/26/98	1/26/98	SOLID		X				X																	
7	RS667	1/26/98	1/26/98	SOLID		X											X			X							
8	RS668	1/27/98	1/27/98	SOLID		X		X																			
9	RS669	1/27/98	1/27/98	SOLID		X		X									X		X								
10	RS670	1/27/98	1/27/98	SOLID		X		X																			
11	RS671	1/27/98	1/27/98	SOLID		X		X																			
12	RS672	1/27/98	1/27/98	SOLID		X						X															
13	RS673	1/27/98	1/27/98	SOLID		X						X															
14	RS674	1/27/98	1/27/98	SOLID		X						X													X		
15	RS675	1/27/98	1/27/98	SOLID		X										X	X										
16	RS676	1/27/98	1/27/98	SOLID		X						X													X		
17	RS677	1/27/98	1/27/98	SOLID		X							X														
18	RS678	1/27/98	1/27/98	SOLID		X		X																			
19	RS679	1/27/98	1/27/98	SOLID		X											X	X	X	X							
20	RS680	1/27/98	1/27/98	SOLID		X											X	X	X	X							

L9800209

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 654
Date 1 / 26/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ KJ PURCHASING
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:

QC Level: Level4 TAT: 35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Matrix: Soil	Water	Product	~~8260M~~ 8021 VOCs	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	~~6010/7000~~ 6010/7000 ILM02.1/RT METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	PERCHLOR.	8270R SVOA				ULS	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS 654	SRBSØ4SØ1	1'	1/26/98	840	18	X			X																	8			1
~~RS 655~~	~~SRBSØ5Sc~~	KJ																											
RS 655	SRBSØ4SØ2	3'		850	19	X			X						X KJ					X KJ						8			
RS 656	SRBSØ5SØ1	3'		930	20	X			X						X					X						3a			
RS 657	CFBS11SØ2	1'		1030	1	X															X					18			
RS 658	CABS26SØ1	0.5'		1130	2	X						X														25			
RS 659	CDBS19SØ1	0.5'		1200	3	X						X														18			
RS 660	CDBS19SØ2	5'		1215		X						X														18		X	
RS 661	CLBS46SØ1	0.5'		1600	4				X																	41b			
RS 662	CLBS52SØ1	0.5'		1610	5						X											X KJ				41c			
RS 663	CLBS46SØ2	5'		1625	6																	X				41b			
RS 664	CLBS46SØ3	8'		1650																		X				41b		X	

Samplers Signature: KMJ	Date 1/26/98	Time 900
Relinquished By: KMJ	Date 1/26/98	Time 1930
Received By: [signature]	Date 1/26/98	Time 1930
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number: ~~L9800187~~

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N NA
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 6

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

L9800209

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS6665
Date 1/26/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ K PURCHASING
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C								

Sample Data						Matrix				8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	~~6010/7000~~ 13 ILM04.0 RT METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH					ULS	COMMENT	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Soil	Water	Product																							
RS6665	SRQWØIEØ1	-	1/26/98	1730	96		X									X									-				1
RS6666	CLQWØ7EØ1	-	↓	↓			X					X													-				2
RS6667	CLBS51SØ1	0.5'	↓	1450	104	X										X									5lb	*			1

T.B. 1/26/98

Samplers Signature	KMJ	Date 1/26/98	Time 1750
Relinquished By:	KMJ	Date 1/26/98	Time 1930
Received By:		Date	Time
Relinquished By:		Date	Time
Received By (LAB):		Date 1/26/98	Time 1935

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N NA
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 6°

* TEST FOR Pb & Zn ONLY.

REV: 1

L9800209

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS668
Date 1/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Dolley~~ PURCHASING
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:
QC Level: Level4 TAT: 35 - Day

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)		Date Collected	Time Collected	Lab ID	Soil	Water	Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	~~6010/7000~~ ILM02.1 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	ULS	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS668	OCBS07SØ3	0.5'	1/27/98	0800	8	X				X					*						4			1
RS669	OCBS10SØ2	4'		0820	9	X				X					*						7			
RS670	OCBS18SØ1	0.5'		915	10	X				X											11a			
RS671	OCSSØ1SØ1	Ø'		945	11	X				X											11b			
RS672	LFBS29SØ1	Ø.5'		1040	12	X									X						21a			
RS673	LFBS3ØSØ1	Ø.5'		1050	13	X									X						43			
RS674	LFBS31SØ1	0.5'		1115	14	X						X			X						42			
RS675	LFBSØ4SØ1	0.5'		1145	15	X									+						28			
RS676	LFBS32SØ1	0.5'		1230	16	X						X			X						38			
RS677	LFBS32SØ1	0.5'		1415	17	X						X			X	X					38			
RS678	CLBS21SØ2	0.5'		1505	18	X				X											26			
RS679	NCBS1ØSØ1	0.5'		1615	19	X									*						12			

Samplers Signature	Thomas J. Burt	Date 1/27/98 Time 0900
Relinquished By:	Thomas J. Burt	Date 1/27/98 Time 2013
Received By:		Date 1/27/98 Time 2013
Relinquished By:		Date Time
Received By (LAB):		Date Time

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 7

*Pb and Ag only
+ Pb and As only
* Pb, Zn, Ag, & Ba ONLY

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

L9800209

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 680
Date 1 / 27 / 98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: -
Comment:

Cooler No:		
QC Level:	Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C						

Sample Data							Matrix				8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ		#'s KJ	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product																					
RS 680	NCBS11SØ1	0.5'	1/27/98	1630	11	20	X											*									HA			1
RS 681	NCBSØ2.5Ø1	0.5'	↓	1700	1		X												X								HA			

KJ 1/27/98

Samplers Signature	KMJ	Date	1/27/98
Relinquished By:	KMJ	Date	1/27/98
Received By:		Date	1/27/98
Relinquished By:		Date	
Received By (LAB):		Date	

	Time
	1630
	2015
	2015

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 7

* Pb, Zn, Ag, & Ba ONLY

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* Lisa L Arrasmith

Date: 2/20/98 There is 1 Page to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain of custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[a]	Method (s) Now Requested[a]
RS654	RS658	1/26/98	D	D Split w/Alta Lab

[a] D = 8290, Dioxin/furan

L9800209-2

The reason for these changes is.

Incorrectly marked on COC form _____
Lack of sample volume _____
Ogden office personnel require this change X
Other: Containers mislabeled __ _____

Thank you.

Columbia Analytical Services, Inc.

MAR

Thursday, March 19, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9800209

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 1/26-27/98.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

CAS CSR #L9800209

Table of Contents

Cover Letter 001
Acronym List 002
Case Narrative 003
Sample Delivery Group Assignment 004
Chain of Custodies 005-009
Semivolatile Organic Compounds (SIM) Analytical Data 1000-1006
Semivolatile Organic Compounds (SIM) Raw Data 2000-2028
Semivolatile Organic Compounds Analytical Data 3000-3009
Semivolatile Organic Compounds Raw Data 4000-4043
Hydrocarbon Scan/Fuel Characterization Analytical Data 5000-5010
Hydrocarbon Scan/Fuel Characterization Raw Data 6000-6043
Halogenated and Aromatic Volatile Organic Compounds Analytical Data 7000-7010
Halogenated and Aromatic Volatile Organic Compounds Raw Data 8000-8144
Metals Analytical Data 9000-9021
Metals Raw Data 10000-10056
Inorganic Parameters Analytical Data 11000-11004
Inorganic Parameters Raw Data 12000-12003
Columbia Analytical Services, Inc.-San Jose, CA Perchlorates ..... Appendix A
Triangle Laboratories Dioxins/Furans ..... Appendix B
ALTA Analytical Laboratory Dioxins/Furans ..... Appendix C

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9800209
Project:	Rocketdyne SSFL 313150002	**Date Received:**	1/26-27/98
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Perchlorate	Columbia Analytical Services, San Jose, CA.
Dioxins/Furans/EPA 8290	Triangle Lab, Durham, NC.
Dioxins/Furans/EPA 8290	Alta Analytical, El Dorado Hills, CA.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via fax from Lisa Arrasmith on 2/20/98:
Analyze "on-hold" split sample RS658 at Alta Analytical for Dioxin/Furan.

MS/MSD analysis for 8270SIM was performed on sample RS699 from SDG L9800238.
MS/MSD analysis for 8270R was performed on a non-Ogden sample HSPC-11 from SDG L9800187.
MS/MSD analysis for 8015TPH was performed on sample RS164 from SDG L9800225.
MS/MSD analysis for 8021VOC was performed on sample RS170 from SDG L9800225.

The following difficulties were experienced during analysis of this batch:
Surrogate for 8270R were below range for one of six surrogates (2,4,6-Tribromophenol) for non-Ogden sample HSPC-11 and slightly above range for one of six surrogates (Terphenyl-d14) for method blank.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 3/19/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9800209**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 1/27/98
SUMMARY / FINAL DUE: 2/10/98 / 2/24/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8021 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	ARSENIC	LEAD	BARIUM	SILVER	ZINC	ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	RS657	1/26/98	1/26/98	SOLID		X																X				
2	RS658	1/26/98	1/26/98	SOLID		X																			X		
3	RS659	1/26/98	1/26/98	SOLID		X																			X		
4	RS661	1/26/98	1/26/98	SOLID		X	X																				
5	RS662	1/26/98	1/26/98	SOLID		X			X																		
6	RS663	1/26/98	1/26/98	SOLID		X				X																	
7	RS667	1/26/98	1/26/98	SOLID		X											X			X							
8	RS668	1/27/98	1/27/98	SOLID		X		X																			
9	RS669	1/27/98	1/27/98	SOLID		X		X									X		X								
10	RS670	1/27/98	1/27/98	SOLID		X		X																			
11	RS671	1/27/98	1/27/98	SOLID		X		X																			
12	RS672	1/27/98	1/27/98	SOLID		X						X															
13	RS673	1/27/98	1/27/98	SOLID		X						X															
14	RS674	1/27/98	1/27/98	SOLID		X						X													X		
15	RS675	1/27/98	1/27/98	SOLID		X										X	X										
16	RS676	1/27/98	1/27/98	SOLID		X						X													X		
17	RS677	1/27/98	1/27/98	SOLID		X							X														
18	RS678	1/27/98	1/27/98	SOLID		X		X																			
19	RS679	1/27/98	1/27/98	SOLID		X											X	X	X	X							
20	RS680	1/27/98	1/27/98	SOLID		X											X	X	X	X							

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

L98000209

Chain of Custody

Control Number: COC RS 654
Date 1 / 26 / 98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ KJ PURCHASING
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:
QC Level: Level4 TAT: 35 - Day

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Matrix: Soil	Water	Product	~~8260M~~ 8021 VOCs	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	~~7060~~ ~~7060A~~ ~~7740~~ ~~7041~~ ~~7421~~ ~~7470~~ ~~7471~~ ~~7060A~~ ~~7740~~ ~~7041~~ ~~7421~~ ~~7470~~ ~~7471~~ LMO2.1 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	PERCHLOR.	8270R SVOA				ULS	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS 654	SRBSØ4SØ1	1'	1/26/98	840	~~18~~	X			X																	8			1
~~RS 655~~	~~SRBSØ5S~~	~~KJ~~																											
RS 655	SRBSØ4SØ2	3'		850	~~19~~	X			X							X										8			
RS 656	SRBSØ5SØ1	3'		930	~~20~~	X			~~X~~							X										8			
RS 657	CFBS11SØ2	1'		1030	1	X																X				18			
RS 658	CABS26SØ1	0.5'		1130	2	X						X														25			
RS 659	CDBS19SØ1	0.5'		1200	3	X						X														18			
RS 660	CDBS19SØ2	5'		1215	~~7~~	X						X														18		X	
RS 661	CLBS46SØ1	0.5'		1600	4				X																	416			
RS 662	CLBS52SØ1	0.5'		1610	5						X													X		4c			
RS 663	CLBS46SØ2	5'		1625	6																			X		41b			
RS 664	CLBS46SØ3	8'	↓	1650	↓	↓																		X		41b		X	↓

Samplers Signature	KMJ	Date	Time
		1/26/98	900
Relinquished By:	KMJ	Date	Time
		1/26/98	1930
Received By:		Date	Time
		1/26/98	1930
Relinquished By:		Date	Time
Received By (LAB):		Date	Time

For Lab Use

Lab Number: ~~L98001~~ L98000187
Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N NA
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 6

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

L9800209

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS665
Date 1/26/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ KJ PURCHASING
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	H_2SO_4, pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C									

Sample Data						Matrix				8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	~~6010/7000~~ ILM04.1 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH								
Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Soil	Water	Product																	ULS	COMMENT	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS665	SRQWØIEØ1	-	1/26/98	1730	96		X									X								-				1
RS666	CLQWØ7EØ1	-	↓	↓			↓					X												-				2
RS667	CLBS51SØ1	0.5'	↓	1450	104	X		(-7)								X								516	*			1

I.B. 1/26/98

Samplers Signature	KMJ	Date 1/26/98	Time 1750
Relinquished By:	KMJ	Date 1/26/98	Time 1930
Received By:		Date	Time
Relinquished By:		Date	Time
Received By (LAB):		Date 1/26/98	Time 1933

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N NA
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 6°

* TEST FOR Pb & Zn ONLY.

REV: 1

L9800209

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS6668
Date 1/27/98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Dolley~~ JB PURCHASING
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:
QC Level: Level4 TAT: 35 - Day

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | H_2SO_4, pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	Δ	Date Collected	Time Collected	Lab ID	Soil	Water	Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	~~6010/7000~~ ILM04.1 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	ULS	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS668	OCBS075	2.5'	1/27/98	0800	8	X				X					*						4			1
RS669	OCBS105	4'		0820	9	X				X					*						7			
RS670	OCBS185	0.5'		915	10	X				X											Ha			
RS671	OCSS015	0'		945	11	X				X											14b			
RS672	LFBS295	0.5'		1040	12	X									X						21a			
RS673	LFBS305	0.5'		1050	13	X									X						43			
RS674	LFBS315	0.5'		1115	14	X						X			X						42			
RS675	LFBS045	2.5'		1145	15	X									+						28			
RS676	LFBS325	2.5'		1230	16	X						X			X						38			
RS677	LFBS325	0.5'		1415	17	X						X			X	X					38		X	
RS678	CLBS215	0.5'		1505	18	X				X					*						216			
RS679	NCBS105	0.5'		1615	19	X															12			

Samplers Signature	Thomas J. Burt	Date 1/27/98	Time 0900
Relinquished By:	Thomas J. Burt	Date 1/27/98	Time 2013
Received By:		Date 1/27/98	Time 2013
Relinquished By:		Date	Time
Received By (LAB):		Date	Time

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 7

*Pb and Ag only
+ Pb and As only
* Pb, Zn, Ag, & Ba ONLY

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

L9800209

OGDEN
5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 680
Date 1 / 27 / 98 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: -
Comment:

Cooler No:
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL pH<2 4°C | HCL pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4 pH<2 4°C | 4°C | HNO_3 pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Matrix: Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS 680	NCBS11SØ1	0.5'	1/27/98	1630	11	20	X										*								HA			1
RS 681	NCBSØ[redacted]2SØ1	0.5'	↓	1700	1		X											X							HA			

KMJ 1/27/98

Samplers Signature: KMJ — Date 1/27/98 — Time 1630
Relinquished By: KMJ — Date 1/27/98 — Time 2015
Received By: [signature] — Date 1/27/98 — Time 2015
Relinquished By: — Date — Time
Received By (LAB): — Date — Time

For Lab Use

Lab Number:

* Pb, Zn, Ag, & Ba ONLY

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 7

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

OGDEN ENVIRONMENTAL AND ENERGY SERVICE

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* Lisa L Arrasmith

Date: 2/20/98 There is 1 Page to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain of custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[a]	Method (s) Now Requested[a]
RS654	RS658	1/26/98	D	D Split w/Alta Lab

[a] D = 8290, Dioxin/furan

L9800209-2

The reason for these changes is:

Incorrectly marked on COC form ____
Lack of sample volume ____
Ogden office personnel require this change X
Other: Containers mislabeled ____

Thank you.

Columbia Analytical Services inc.

Tuesday, March 10, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: **Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9800073**

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 12/12/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

CAS CSR #L9800073

Table of Contents

Cover Letter..... 001
Acronym List..... 002
Case Narrative..... 003
Sample Delivery Group Assignment..... 004
Chain of Custodies..... 005-006
Metals Analytical Data..... 1000-1005
Metals Raw Data..... 2000-2050

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9800073
Project:	Rocketdyne SSFL 313150002	**Date Received:**	12/12/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via phone call from Lisa Arrasmith on 1/12/98:
Take RS541 off hold for Ba, Pb Ag & RS551 off hold for MetalsRT.

No difficulties were experienced during analysis of this batch.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: JCRod Date: 3/10/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9800073**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 1/9/98 * See Note
SUMMARY / FINAL DUE: 1/23/98 / 2/6/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471	Ba Pb Ag		ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RS541**	12/11/97	12/12/97	SOLID		X													X							
2	**RS551**	12/11/97	12/12/97	SOLID		X					X															
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										
13																										
14																										
15																										
16																										
17																										
18																										
19																										
20																										

Metals added to RS541-RS551 1/9/98

~~L9704259~~ CA 1/9/98

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

L9800073

Chain of Custody

Control Number: COC RS 540

Date 12 / 11 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick	Bill To:	Purchasing	Sample Disposal Instructions:	Laboratory Disposal
Project Name:	Rocketdyne	Company:	Ogden Environmental	Shipment Method:	
Project Number:	313150002	Address:	5510 Morehouse Drive, San Diego, CA 92121	Comment:	
Deliver results to the address above or as stated in contract					

Cooler No:

QC Level: Level4

TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4 C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

SWMO	Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
5.6	RS 540	APBS01S01	5	12/11/97	815	4	3.	X										X				X			HA			1
1	RS 541	APBS01S02	10		845	4												X				X			HA		X	
	RS 542	APSS05S01	0		930	5	4.											X							G			
	RS 543	APSS06S01	0		940	6	5.											X							G			
4.12	RS 544	LFSS09S01	0		1045	39	6.					X						X							G			
	RS 545	LFBS04S02	0.5		1115	28	7.						X					X		X	X	X			HA			
7.8	RS 546	NCBS04S01	0.5		1145	6	8.											X										
	RS 547	NCBS05S01			1150	69	9.											X										
	RS 548	NCBS06S01			1200	7	10											X										
	RS 549	NCBS07S01	5		1430	5	11.											X				X						
	RS 550	NCBS08S01	0.5		1440	10	12.											X										
2	RS 551	NCBS08S02	4		1510	10												X									X	

Samplers Signature: KMJ	Date: 12/11/97	Time: 920
Relinquished By: KMJ	Date: 12/11/97	Time: 1825
Received By: [signature]	Date: 12/12/97	Time: 1001
Relinquished By: [signature]	Date: 12/12/97	Time: 1001
Received By (LAB): [signature]	Date: 12/12/97	Time: 1000

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N NA
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 9

Rel Kond 12/12/97 1030

Rec'd [signature] 12/12/97 1030

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

005

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* Lisa L Arrasmith

Date: 1/12/98 There is 1 Page to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[a]	Method (s) Now Requested[a]
RS540	RS541	12/11/97	HOLD	Ba, Pb & Ag
RS540	RS551	12/11/97	HOLD	M

L9700073-1

[a] M=MetalsRT
Ba, Pb & Ag = Barium, Lead and Silver

The reason for these changes is:

Incorrectly marked on COC form _____
Lack of sample volume _____
Ogden office personnel require this change X
Other: Containers mislabeled ___ _____

Thank you.

Columbia Analytical Services inc.

Tuesday, March 10, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: **Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9800073**

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 12/12/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9800073
Project:	Rocketdyne SSFL 313150002	**Date Received:**	12/12/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via phone call from Lisa Arrasmith on 1/12/98:
Take RS541 off hold for Ba, Pb Ag & RS551 off hold for MetalsRT.

No difficulties were experienced during analysis of this batch.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: JoRod Date: 3/10/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9800073**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 1/9/98 * See Note
SUMMARY / FINAL DUE: 1/23/98 / 2/6/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471	Ba Pb Ag		ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RS541**	12/11/97	12/12/97	SOLID		X													X							
2	**RS551**	12/11/97	12/12/97	SOLID		X					X															
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										
13																										
14																										
15																										
16																										
17																										
18																										
19																										
20																										

Metals added to RS541-RS551 1/9/98

~~L9704259~~ CA 1/9/98

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

L9800073

Chain of Custody

Control Number: COC RS 540

Date 12 / 11 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick	Bill To:	Purchasing	Sample Disposal Instructions:	Laboratory Disposal
Project Name:	Rocketdyne	Company:	Ogden Environmental	Shipment Method:	
Project Number:	313150002	Address:	5510 Morehouse Drive, San Diego, CA 92121	Comment:	
Deliver results to the address above or as stated in contract					

Cooler No:

QC Level: Level4

TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4 C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4 C; 4°C; 4°C

Sample Data

SWMO	Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
5.6	RS 540	APBS01S01	5	12/11/97	815	4	3.	X										X				X			HA			1
1	RS 541	APBS01S02	10		845	4												X				X			HA		X	
	RS 542	APSS05S01	0		930	5	4.											X							G			
	RS 543	APSS06S01	0		940	6	5.											X							G			
4.12	RS 544	LFSS09S01	0		1045	39	6.					X						X							G			
	RS 545	LFBS04S02	0.5		1115	28	7.						X					X		X	X	X			HA			
7.8	RS 546	NCBS04S01	0.5		1145	6	8.											X										
	RS 547	NCBS05S01			1150	69	9.											X										
	RS 548	NCBS06S01			1200	7	10											X										
	RS 549	NCBS07S01	5		1430	5	11.											X				X						
	RS 550	NCBS08S01	0.5		1440	10	12.											X										
2	RS 551	NCBS08S02	4		1510	10												X									X	

Samplers Signature: KMJ	Date: 12/11/97	Time: 920
Relinquished By: KMJ	Date: 12/11/97	Time: 1825
Received By: [signature]	Date: 12/12/97	Time: 1001
Relinquished By: [signature]	Date: 12/12/97	Time: 1001
Received By (LAB): [signature]	Date: 12/12/97	Time: 1000

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N NA

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: ___/___/___

Temperature °C 9

Rel Kmt 12/12/97 1030

Rec'd [signature] 12/12/97 1030

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

005

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* Lisa L Arrasmith

Date: 1/12/98 There is 1 Page to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[a]	Method (s) Now Requested[a]
RS540	RS541	12/11/97	HOLD	Ba, Pb & Ag
RS540	RS551	12/11/97	HOLD	M

L9700073-1

[a] M=MetalsRT
Ba, Pb & Ag = Barium, Lead and Silver

The reason for these changes is:

Incorrectly marked on COC form _____
Lack of sample volume _____
Ogden office personnel require this change X
Other: Containers mislabeled ___ _____

Thank you.

DIVIDER SHEET

ANALYTICAL DATA FOR

METALS

ANALYSIS

1000

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800073
Project:	Rocketdyne/313150002	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Metals

Sample Name:	IBLK98011403	Units:	MG/KG
Lab Code:	L980114-MB3	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes
Antimony	EPA 3050	6010	10	1	1/14/98	1/15/98	10	U
Arsenic	EPA 3050	7060	5	1	1/13/98	1/13/98	5	U
Barium	EPA 3050	6010	1	1	1/14/98	1/15/98	1	U
Beryllium	EPA 3050	6010	0.5	1	1/14/98	1/15/98	0.5	U
Cadmium	EPA 3050	6010	1	1	1/14/98	1/15/98	1	U
Chromium	EPA 3050	6010	2	1	1/14/98	1/15/98	2	U
Cobalt	EPA 3050	6010	2	1	1/14/98	1/15/98	2	U
Copper	EPA 3050	6010	2	1	1/14/98	1/15/98	2	U
Lead	EPA 3050	6010	5	1	1/14/98	1/15/98	5	U
Mercury	METHOD	7471	0.2	1	1/13/98	1/13/98	0.2	U
Molybdenum	EPA 3050	6010	10	1	1/14/98	1/15/98	10	U
Nickel	EPA 3050	6010	5	1	1/14/98	1/15/98	5	U
Selenium	EPA 3050	7740	5	1	1/13/98	1/13/98	5	U
Silver	EPA 3050	6010	1	1	1/14/98	1/15/98	1	U
Thallium	EPA 3050	7841	5	1	1/13/98	1/13/98	5	U
Vanadium	EPA 3050	6010	2	1	1/14/98	1/15/98	2	U
Zinc	EPA 3050	6010	1	1	1/14/98	1/15/98	1	U

Approved By: Eydie Schuetz Date: 3/10/98

1S44/021397p

1001

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800073
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS541	Units:	MG/KG
Lab Code:	L9800073-001	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes
Barium	EPA 3050	6010	1	1	1/14/98	1/15/98	100	
Lead	EPA 3050	6010	6	1	1/14/98	1/15/98	10	
Silver	EPA 3050	6010	1	1	1/14/98	1/15/98	2	

Approved By: Eydie Schuntz Date: 3/10/98

1S44/021397p

1002

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800073
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS551	Units:	MG/KG
Lab Code:	L9800073-002	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes
Antimony	EPA 3050	6010	11	1	1/14/98	1/15/98	11	U
Arsenic	EPA 3050	7060	6	1	1/13/98	1/13/98	6	U
Barium	EPA 3050	6010	1	1	1/14/98	1/15/98	91	
Beryllium	EPA 3050	6010	0.6	1	1/14/98	1/15/98	0.6	
Cadmium	EPA 3050	6010	1	1	1/14/98	1/15/98	1	U
Chromium	EPA 3050	6010	2	1	1/14/98	1/15/98	19	
Cobalt	EPA 3050	6010	2	1	1/14/98	1/15/98	9	
Copper	EPA 3050	6010	2	1	1/14/98	1/15/98	8	
Lead	EPA 3050	6010	6	1	1/14/98	1/15/98	9	
Mercury	METHOD	7471	0.2	1	1/13/98	1/13/98	0.2	U
Molybdenum	EPA 3050	6010	11	1	1/14/98	1/15/98	11	U
Nickel	EPA 3050	6010	6	1	1/14/98	1/15/98	12	
Selenium	EPA 3050	7740	6	1	1/13/98	1/13/98	6	U
Silver	EPA 3050	6010	1	1	1/14/98	1/15/98	1	U
Thallium	EPA 3050	7841	6	1	1/13/98	1/13/98	6	U
Vanadium	EPA 3050	6010	2	1	1/14/98	1/15/98	37	
Zinc	EPA 3050	6010	1	1	1/14/98	1/15/98	49	

Approved By: Cynthia Schmidt Date: 3/10/98

1S44/021397p

1003

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Ogden Environmental
Project: Rocketdyne/313150002
Sample Matrix: Soil

Service Request: L9800073
Date Collected: 12/11/97
Date Received: 12/12/97
Date Digested: 1/13-14/98
Date Analyzed: 1/13-15/98

Matrix Spike/Duplicate Matrix Spike Summary
Metals

Sample Name: RS551MSD
Lab Code: L9800073-002MS, L9800073-002DMS
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Antimony	EPA 3050	6010	11	56.9	56.9	11	15.8	25.8	28	45	30-120	48	*
Arsenic	EPA 3050	7060	6	22.8	22.8	6	17.3	22.2	76	97	60-130	25	
Barium	EPA 3050	6010	1	142	142	91.1	227	227	96	96	60-130	<1	
Beryllium	EPA 3050	6010	0.6	11.4	11.4	0.6	11.6	11.6	96	96	60-130	<1	
Cadmium	EPA 3050	6010	1	11.4	11.4	1	10.8	10.9	95	96	60-130	<1	
Chromium	EPA 3050	6010	2	56.9	56.9	19.2	73.0	74.4	95	97	60-130	2	
Cobalt	EPA 3050	6010	2	56.9	56.9	8.5	64.1	63.6	98	97	60-130	<1	
Copper	EPA 3050	6010	2	56.9	56.9	7.7	64.0	64.6	99	100	60-130	<1	
Lead	EPA 3050	6010	6	56.9	56.9	9.1	66.1	67.1	100	102	60-130	2	
Mercury	METHOD	7471	0.2	0.285	0.285	0.2	0.296	0.292	104	102	60-130	1	
Molybdenum	EPA 3050	6010	11	56.9	56.9	11	50.5	53.6	89	94	60-130	6	
Nickel	EPA 3050	6010	6	56.9	56.9	11.9	68.0	69.3	99	101	60-130	2	
Selenium	EPA 3050	7740	6	22.8	22.8	6	20.8	20.0	91	88	50-130	4	
Silver	EPA 3050	6010	1	28.5	28.5	1	28.3	28.8	99	101	60-130	2	
Thallium	EPA 3050	7841	6	22.8	22.8	6	22.2	21.6	97	95	60-130	3	
Vanadium	EPA 3050	6010	2	56.9	56.9	36.6	89.2	90.8	92	95	60-130	2	
Zinc	EPA 3050	6010	1	56.9	56.9	48.9	111	115	109	116	60-130	4	

* Matrix Spikes outside acceptance limits due to matrix effects. This is common due to the strong affinity of antimony towards solid matrices.

Approved By: Eydie Schuraf Date: 3/10/98

DMS/020597p

00073ICP.JE1 - DMS 3/10/98

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Ogden Environmental
Project: Rocketdyne/313150002
LCS Matrix: Soil

Service Request: L9800073
Date Collected: NA
Date Received: NA
Date Digested: 1/13-14/98
Date Analyzed: 1/13-15/98

Laboratory Control Sample Summary
Metals

Sample Name: ILCS98011403
Lab Code: L980114-LCS
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Antimony	EPA 3050	6010	50.0	48.2	96	75-125	
Arsenic	EPA 3050	7060	20.0	15.9	80	75-125	
Barium	EPA 3050	6010	125	114	91	75-125	
Beryllium	EPA 3050	6010	10.0	9.4	94	75-125	
Cadmium	EPA 3050	6010	10.0	9.1	91	75-125	
Chromium	EPA 3050	6010	50.0	48.0	96	75-125	
Cobalt	EPA 3050	6010	50.0	50.0	100	75-125	
Copper	EPA 3050	6010	50.0	49.4	99	75-125	
Lead	EPA 3050	6010	50.0	49.5	99	75-125	
Mercury	METHOD	7471	0.250	0.256	102	75-125	
Molybdenum	EPA 3050	6010	50.0	47.5	95	75-125	
Nickel	EPA 3050	6010	50.0	50.2	100	75-125	
Selenium	EPA 3050	7740	20.0	19.3	97	75-125	
Silver	EPA 3050	6010	25.0	24.4	98	75-125	
Thallium	EPA 3050	7841	20.0	18.8	94	75-125	
Vanadium	EPA 3050	6010	50.0	46.2	92	75-125	
Zinc	EPA 3050	6010	50.0	51.4	103	75-125	

Approved By: Cydie Schwartz Date: 3/10/98

LCS/020597p
00073ICP.JE1 - LCS 3/10/98

Columbia Analytical Services inc.

Thursday, March 12, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9704259

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 12/12/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

CAS CSR #L9704259

Table of Contents

Cover Letter 001
Acronym List 002
Case Narrative 002A
Sample Delivery Group Assignment 003
Chain of Custodies 004-006
Semivolatile Organic Compounds (SIM) Analytical Data 1000-1007
Semivolatile Organic Compounds (SIM) Raw Data ..... 2000-~~2082~~ 2027
Polychlorinated Biphenyls (PCBs) Analytical Data 3000-3007
Polychlorinated Biphenyls (PCBs) Raw Data 4000-4056
Hydrocarbon Scan/Fuel Characterization Analytical Data 5005-5017
Hydrocarbon Scan/Fuel Characterization Raw Data 6000-6045
Halogenated and Aromatic Volatile Organic Compounds Analytical Data 7000-7011
Halogenated and Aromatic Volatile Organic Compounds Raw Data 8000-8172
Metals Analytical Data 9000-9017
Metals Raw Data 10000-10059
Inorganic Parameters Analytical Data 11000-11013
Inorganic Parameters Raw Data 12000-12048
Columbia Analytical Services, Inc.-Kelso, WA Formaldehyde/Tributyltins ..... Appendix A
Paragon Laboratories Explosives ..... Appendix B
SEMIVOA ..... 2028 - 2082

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9704259
Project:	Rocketdyne SSFL 313150002	**Date Received:**	12/12/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Formaldehyde	Columbia Analytical Services, Kelso, WA.
Explosives/EPA 8330	Paragon Analytical, Fort Collins, CO.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

MS/MSD analysis for 8270SIM was performed on sample RF475 from SDG L9704204.
MS/MSD analysis for 8080PCB was performed on sample RS031 from SDG L9704312.

The following difficulties were experienced during analysis of this batch:
Confirmation analysis for sample RS003 for 8021VOC was qualitatively confirmed for Trichloroethene.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 3/12/98

002A

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9704259**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 12/11/97
SUMMARY / FINAL DUE: 12/25/97 / 1/8/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471	8021VOC		ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RS553**	12/11/97	12/12/97	SOLID		X											X									
2	**RS554**	12/11/97	12/12/97	SOLID		X											X									
3	**RS540**	12/11/97	12/12/97	SOLID		X					X					X										
4	**RS542**	12/11/97	12/12/97	SOLID		X					X															
5	**RS543**	12/11/97	12/12/97	SOLID		X					X															
6	**RS544**	12/11/97	12/12/97	SOLID		X		X			X															
7	**RS545**	12/11/97	12/12/97	SOLID		X			X		X			X	X	X										
8	**RS546**	12/11/97	12/12/97	SOLID		X					X															
9	**RS547**	12/11/97	12/12/97	SOLID		X					X															
10	**RS548**	12/11/97	12/12/97	SOLID		X					X															
11	**RS549**	12/11/97	12/12/97	SOLID		X					X					X										
12	**RS550**	12/11/97	12/12/97	SOLID		X					X															
13	**RS001**	12/11/97	12/12/97	SOLID		X		X		X				X	X	X			X		X					X
14	**RS002**	12/11/97	12/12/97	SOLID		X		X																		
15	**RS003**	12/11/97	12/12/97	SOLID		X												X	X							
16	**RS004**	12/11/97	12/12/97	SOLID		X		X																		
17	**RS005**	12/11/97	12/12/97	SOLID		X		X																		
18	**RS006**	12/11/97	12/12/97	SOLID		X		X			X					X										
19	**RS007**	12/11/97	12/12/97	SOLID		X		X			X					X										
20	**RS008**	12/11/97	12/12/97	SOLID		X		X			X					X										

L 9704259

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 552
Date 12 / 11 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H2SO4,pH<2 4°C | 4°C | HNO3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ			Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS 552	NCBS@9SQ1	0.5	12/11/97	1520	9		X										X									HA			1
RS 553	CTBS@1SQ2	↓	↓	1620	6	1.	↓															X				↓			↓
RS 554	CTBS@5SQ1	↓	↓	1630	9	2.	↓															X				↓			↓

SWMU 7.8 A I ↓

KMJ 12/11/97

	Date	Time
Samplers Signature: KMJ	12/11/97	1540
Relinquished By: KMJ	12/11/97	1825
Received By: [signature]	12/12/97	1001
Relinquished By: [signature]	12/12/97	1001
Received By (LAB): KMat	12/12/97	1000

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Rel Kemp Mat 12/12/97 0930 Rec'd Anstle Agua 1030 12/12/97

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N (N/A)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 9°

REV: 1

004

L9704259

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 540
Date 12 / 11 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4 C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4 C | 4°C | 4 C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
SWM2 5.6 ↓ 4.12 ↓ 7.8 ↓	RS 540	APBSØ1SØ1	5	12/11/97	815	4	3.	X									X				X				HA			1
	RS 541	APBSØ1SØ2	10		845	4											X				X				HA		X	
	RS 542	APSSØ5SØ1	Ø		930	5	4.										X								G			
	RS 543	APSSØ6SØ1	Ø		940	6	5.										X								G			
	RS 544	LFSSØ9SØ1	Ø		1045	3	6.				X						X								G			
	RS 545	LFBSØ4SØ2	0.5		1115	28	7.					X					X		X	X	X				HA			
	RS 546	NCBSØ4SØ1	0.5		1145	6	8.										X											
	RS 547	NCBSØ5SØ1	↓		1150	6a	9.										X											
	RS 548	NCBSØ6SØ1	↓		1200	7	10										X											
	RS 549	NCBSØ7SØ1	5		1430	5	11.										X				X							
	RS 550	NCBSØ8SØ1	0.5	↓	1440	10	12.										X											
↓	RS 551	NCBSØ8SØ2	4	↓	1510	10		↓									X								↓		X	↓

Samplers Signature	KMJ	Date 12/11/97 Time 920
Relinquished By:	KMJ	Date 12/11/97 Time 1825
Received By:	[signature]	Date 12/12/97 Time 1001
Relinquished By:	[signature]	Date 12/12/97 Time 1001
Received By (LAB):	[signature]	Date 12/12/97 Time 1029

1 Original, 2 Lab Copy, 3 Field Copy

1/M

For Lab Use

Lab Number:

Rel Kmd 12/12/97 1030 Rec'd Annette Burgess 12/12/97 1130

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: Y or (N)
COC seal intact: Y or N (NA)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 9

REV: 1

00

L9704259

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS001
Date 12/11/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	

Cooler No:		
QC Level:	Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives

												HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4,pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C					
SWMO	Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product		8260M 8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ		Comment	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
6.1,6.3	RS001	ECBS18S01	1.0	12/11/97	0900	10	13	X				X	X		X		X	X			X	X	X					B			1
↓	RS002	ECBS19S01	0.5		0930	15a	14	X					X						X												1
5.2	RS003	EVBS19S01	1.0		1030	21	15	X				X							X								*				1
5.5	RS004	BUBS10S01	5		1130	8	16	X					X																		1
↓	RS005	BUBS10S02	9.0		1150	8	17	X					X																		1
4.3,4.4	RS006	ILBS38S01	1.0		1540	46a	18	X					X						X				X								1
	RS007	ILBS38S02	6		1550		19	X					X						X				X								1
	RS008	ILBS38S03	11.5		1610		20	X					X						X				X								1
↓	RS009	ILBS38S04	15		1630	↓		X					X						X				X					↓			1

12/11/97

Samplers Signature	Thomas [signature] KMJ	Date 12/11/97	Time 1905
Relinquished By:	KMJ	Date 12/11/97	Time 1905
Received By:	[signature]	Date 12/12/97	Time 1000
Relinquished By:	[signature]	Date 12/12/97	Time 1000
Received By (LAB):	[signature]	Date 12/12/97	Time 1000

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N NA
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 9°

* Hg only

Rel [signature] 12/12/97 1030

Rcvd [signature] 12/12/97 1030

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

006

Columbia Analytical Services, Inc.

Thursday, March 12, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9704259

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 12/12/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9704259
Project:	Rocketdyne SSFL 313150002	**Date Received:**	12/12/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Formaldehyde	Columbia Analytical Services, Kelso, WA.
Explosives/EPA 8330	Paragon Analytical, Fort Collins, CO.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

MS/MSD analysis for 8270SIM was performed on sample RF475 from SDG L9704204.
MS/MSD analysis for 8080PCB was performed on sample RS031 from SDG L9704312.

The following difficulties were experienced during analysis of this batch:
Confirmation analysis for sample RS003 for 8021VOC was qualitatively confirmed for Trichloroethene.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 3/12/98

002A

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9704259**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 12/11/97
SUMMARY / FINAL DUE: 12/25/97 / 1/8/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471	8021VOC		ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RS553**	12/11/97	12/12/97	SOLID		X											X									
2	**RS554**	12/11/97	12/12/97	SOLID		X											X									
3	**RS540**	12/11/97	12/12/97	SOLID		X					X					X										
4	**RS542**	12/11/97	12/12/97	SOLID		X					X															
5	**RS543**	12/11/97	12/12/97	SOLID		X					X															
6	**RS544**	12/11/97	12/12/97	SOLID		X		X			X															
7	**RS545**	12/11/97	12/12/97	SOLID		X			X		X			X	X	X										
8	**RS546**	12/11/97	12/12/97	SOLID		X					X															
9	**RS547**	12/11/97	12/12/97	SOLID		X					X															
10	**RS548**	12/11/97	12/12/97	SOLID		X					X															
11	**RS549**	12/11/97	12/12/97	SOLID		X					X					X										
12	**RS550**	12/11/97	12/12/97	SOLID		X					X															
13	**RS001**	12/11/97	12/12/97	SOLID		X		X		X				X	X	X			X		X					X
14	**RS002**	12/11/97	12/12/97	SOLID		X		X																		
15	**RS003**	12/11/97	12/12/97	SOLID		X												X	X							
16	**RS004**	12/11/97	12/12/97	SOLID		X		X																		
17	**RS005**	12/11/97	12/12/97	SOLID		X		X																		
18	**RS006**	12/11/97	12/12/97	SOLID		X		X			X					X										
19	**RS007**	12/11/97	12/12/97	SOLID		X		X			X					X										
20	**RS008**	12/11/97	12/12/97	SOLID		X		X			X					X										

L 9704259

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 552
Date 12/11/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:		
QC Level:	Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4 C						

SWMU 7.8 A I

Sample Data							Matrix																								
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ			Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RS 552	NCBS@9S@1	0.5	12/11/97	1520	9		X										X									HA			1
RS 553	CTBS@1S@2	↓	↓	1620	6	1.	↓															X				↓			↓
RS 554	CTBS@5S@1			1630	9	2.																X							

KJ 12/11/97

Samplers Signature	KMJ	Date 12/11/97 Time 1540
Relinquished By:	KMJ	Date 12/11/97 Time 1825
Received By:	Federal Express	Date 12/12/97 Time 1001
Relinquished By:	Federal Express	Date 12/12/97 Time 1001
Received By (LAB):	KMA	Date 12/12/97 Time 1005

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Rel Kempmart 12/12/97 0830 Rec'd Anstlle Angus 1030 12/12/97

Do COC match samples (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N (NA)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 9°

REV: 1

004

L9704259

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 540

Date 12 / 11 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	

Cooler No:

QC Level: Level4

TAT: 14-day hardcopy summary
28-day full package

Preservatives

												HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4,pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C					
	Sample Data							Matrix																					
SWMO	Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product		8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ			Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
5.6	RS 540	APBS01S01	5	12/11/97	815	4	3.	X											X				X					HA			1
	RS 541	APBS01S02	10		845	4													X				X					HA		X	
	RS 542	APSS05S01	0		930	5	4.												X									G			
	RS 543	APSS06S01	0		940	6	5.												X									G			
4.12	RS 544	LFSS09S01	0		1045	39	6.						X						X									G			
	RS 545	LFBS04S02	0.5		1115	28	7.							X					X		X	X	X					HA			
7.8	RS 546	NCBS04S01	0.5		1145	6	8.												X												
	RS 547	NCBS05S01			1150	69	9.												X												
	RS 548	NCBS06S01			1200	7	10												X												
	RS 549	NCBS07S01	5		1430	5	11.												X				X								
	RS 550	NCBS08S01	0.5		1440	10	12.												X												
	RS 551	NCBS08S02	4		1510	10													X											X	

Samplers Signature KMJ	Date 12/11/97	Time 920
Relinquished By: KMJ	Date 12/11/97	Time 1825
Received By: [signature]	Date 12/12/97	Time 1001
Relinquished By: [signature]	Date 12/12/97	Time 1001
Received By (LAB): [signature]	Date 12/12/97	Time 1002

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N NA

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: ___/___/___

Temperature °C 9

Rel [signature] 12/12/97 1030

Rec'd [signature] 12/12/97 1030

REV: 1

00

L9704259

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS001

Date 12/11/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	

Cooler No:	
QC Level:	Level4
TAT:	14-day hardcopy summary 28-day full package

Preservatives

												HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4,pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C					
SWMO	Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product		~~8260M~~ 8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ		Comment	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
6.1,6.3	RS001	ECBS18S01	1.0	12/11/97	0900	10	13 ●	X				X	X		X		X	X			X	X	X					B			1
↓	RS002	ECBS19S01	0.5		0930	15a	14 ●	X					X						X												1
5.2	RS003	EVBS19S01	1.0		1030	21	15 ●	X				X							X								*				1
5.5	RS004	BUBS10S01	5		1130	8	16 ●	X					X																		1
↓	RS005	BUBS10S02	9.0		1150	8	17 ●	X					X																		1
4.3,4.4	RS006	ILBS38S01	1.0		1540	46a	18 ●	X					X						X				X								1
	RS007	ILBS38S02	6		1550		19 ●	X					X						X				X								1
	RS008	ILBS38S03	11.5		1610		20 ●	X					X						X				X								1
↓	RS009	ILBS38S04	15		1630			X					X						X				X								1

12/11/97

Samplers Signature	Thomas [signature] KMJ	Date 12/11/97	Time 1905
Relinquished By:	KMJ	Date 12/11/97	Time 1905
Received By:	[signature]	Date 12/12/97	Time 1000
Relinquished By:	[signature]	Date 12/12/97	Time 1000
Received By (LAB):	[signature]	Date 12/12/97	Time 1000

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N NA

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 9°

* Hg only

Rel [signature] 12/12/97 1030

Rcvd [signature] 12/12/97 1030

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

001

Columbia Analytical Services, Inc.

Friday, March 06, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9704229

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 12/9-12/1/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

0001

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9704229
Project:	Rocketdyne SSFL 313150002	**Date Received:**	12/9-12/1/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Perchlorate	Columbia Analytical Services, San Jose, CA.
Explosives/EPA 8330	Paragon Analytical, Fort Collins, CO.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via fax from Lisa Arrasmith on 12/10/97:
Take RS519 off hold and run Explosives 8330 and Perchlorate.
The following changes were requested via fax from Lisa Arrasmith on 12/15/97:
Add Lead to RF480.

MS/MSD analysis for 8270SIM was performed on sample RF475 from SDG L9704204.
MS/MSD analysis for 8015OG was performed on sample RS008 from SDG L9704259.

No difficulties were experienced during analysis of this batch:

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 3/6/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9704229**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 12/15/97 * See Note
SUMMARY / FINAL DUE: 12/29/97 / 1/12/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471	Copper	Lead	ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RF465**	12/10/97	12/10/97	SOLID		X					X					X										
2	**RF466**	12/10/97	12/10/97	SOLID		X					X					X										
3	**RF467**	12/10/97	12/10/97	SOLID		X					X					X										
4	**RF468**	12/10/97	12/10/97	SOLID		X					X					X										
5	**RF469**	12/10/97	12/10/97	SOLID		X					X					X										
6	**RF470**	12/10/97	12/10/97	SOLID		X			X		X					X										
7	**RF471**	12/10/97	12/10/97	SOLID		X			X		X					X										
8	**RF472**	12/10/97	12/10/97	SOLID		X			X		X					X										
9	**RS519**	12/9/97	12/9/97	SOLID		X																X				X
10	**RF473**	12/11/97	12/12/97	SOLID		X		X											X							
11	**RF474**	12/11/97	12/12/97	SOLID		X		X											X							
12	**RF475**	12/11/97	12/12/97	SOLID		X		X											X							
13	**RF476**	12/11/97	12/12/97	SOLID		X		X											X							
14	**RF477**	12/11/97	12/12/97	SOLID		X		X											X							
15	**RF478**	12/11/97	12/12/97	SOLID		X		X																		
16	**RF479**	12/11/97	12/12/97	SOLID		X		X																		
17	**RF480**	12/11/97	12/12/97	SOLID		X		X	X											X						
18	**RF481**	12/11/97	12/12/97	SOLID		X		X																		
19	**RF482**	12/11/97	12/12/97	SOLID		X		X																		
20	**RS552**	12/11/97	12/12/97	SOLID		X					X															

Lead added to RF480 12/15/97

L9704204 L9704204 CA 12/00

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF456
Date 12/10/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	SVMIL		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RF456	HVBS355Φ1	1.5	12/10/97	0915	34	12	X					1					1				1			11	10C				1
RF457	HVBS355Φ2	5.0		0920		13	X					1					1				1								1
RF458	HVBS355Φ3	10.0		0935		14	X					1					1				1								1
RF459	HVBS355Φ4	~~15.0~~		0940		15	X					1					1				1								1
RF460	HVBS536Φ1	1.5		1040	35	16	X		12/10/97 CA								1				1								1
RF461	HVBS536Φ2	5.0		1045	35	17	X										1				1								1
RF462	HVBS536Φ3	8.0		1055	35	18	X										1				1								1
RF463	HVBS537Φ1	1.5		1130	36	19	X										1				1								1
RF464	HVBS537DΦ1	1.5		1130	36	20	X										1				1								1
RF465	HVBS537Φ2	5.0		1135	36	1	X										1				1								1
RF466	HVBS537Φ3	10.0		1145	36	2	X										1				1								1
RF467	HVBS538Φ1	1.0		1220	38	3	X										1				1								1

	Date	Time
Samplers Signature	12/10/97	1730
Relinquished By:	12/10/97	1730
Received By:	12/10/97	1730
Relinquished By:	12/10/97	1850
Received By (LAB):	12/10/97	1850

For Lab Use

Lab Number:

Do COC match samples (Y) or N
Broken container: Y or (N)
Received within holding time (Y) or N
COC seal intact: Y or N (NA)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 12°

0005

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

L9704229

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF468
Date 12/10/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						

Sample Data							Matrix				8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.1RT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	SVOA-L		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product																					
RF468	HVBS385SD2	5.5	12/10/97	1230	38	4	X											1				1			A1	ADC				1
RF469	HVBS385SD3	9.5		1240	38	5	X											1				1								1
RF470	HVBS395SD1	0.5		1510	39	6	X						1					1				1								1
RF471	HVBS395SD2	5.0		1515	39	7	X						1					1				1								1
RF472	HVBS395SD3	11.0		1530	39	8	X						1					1				1			V					1
														DXB																
														12/14/97																

Samplers Signature	Date 12/10/97	Time 1730
Relinquished By:	Date 12/10/97	Time 1730
Received By:	Date 12/10/97	Time 1730
Relinquished By:	Date 12/10/97	Time 1850
Received By (LAB):	Date 12/10/97	Time 1850

0905

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N (N/A)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature C 12°

REV: 1

L-9704204

L9704229-9

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 517

Date 12/9/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	

Cooler No:		
QC Level:	Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	SLUDGE	8260M VOC (HCL, pH<2 4°C)	8015OG TPH (HCL, pH<2 4°C)	8270SIM SVOC (4°C)	8270R SVOC (4°C)	8290 DIOXIN (4°C)	ASTM D19 FORMALDEHYDE (H2SO4, pH<2 4°C)	8330 ORDINANCE (4°C)	1LM02.IRT METALSRT (HNO3, pH<2 4°C)	7196 HEX CHROME (4°C)	340.2 FLUORIDE (4°C)	300 ANIONS (4°C)	9045/9040 pH (4°C)	8081 PCBs (4°C)	IC HYDRAZ (4°C)	PERCHLORATES	SWMU	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
~~RS~~	~~SLSSØ4DØ1~~	~~0~~	~~12/9/97~~	~~0740~~	~~26~~																									
RS517	CLSSØ2DØ1	0	12/9/97	0800	30	16	X						X			X										4.7	G	X		1
RS518	HVSSØ4SØ1	0		930	46	7							X				X	X		~~X~~ KJ	~~X~~	X				AJ	G			1
RS519	HVBS32SØ1	0.5		1000	44	18											X	X	X			X			X		HA		X	1
RS520	HVBS33SØ1	0.5		1010	47													X				X					HA			1
RS521	HVSUØ2SØ1	0		1045	42	19				X							X								X		G			1
RS522	HVSUØ3SØ1			1100	43	20	X										X								X		G			1
RS523	HVBS34SØ1	0.5		1130	29	1	X										X	X	X			X			X		HA			1
~~RS524~~	~~HVBS34DØ1~~	~~0.5~~		~~1130~~	~~29~~		X										~~X~~ KJ	~~X~~	~~X~~			~~X~~			~~X~~		~~HA~~	~~X~~		1
RS525	HVBS35SØ1			1200	48	2				X															X		G			1
KJ	SSØ5 KJ			KJ								KJ																		
RS526	HVSUØ4SØ1	10		1545	23b	3				X			X				X	X				X					G			1

TB

		Date	Time
Samplers Signature	KMJ	12/9/97	935
Relinquished By:	KJ	12/9/97	1910 KJ
Received By:	[signature]	12/9/97	1910
Relinquished By:	[signature]	12/9/97	1935
Received By (LAB):	[signature]	12/9/97	1935

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N NA

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 7°

REV: 1

L9704229

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF473
Date 12/11/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4 C | 4 C | 4°C | 4 C | | |

L9704259
L9704229

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 552
Date 12/11/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

| Sample Data | | | | | | | Matrix | | | | | | |

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* LLA

Date: 12/10/97 There is 1 Pages to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[(a)]	Method (s) Now Requested[(a)]
RS517	RS519	12/9/97	HOLD	ClO & OR

[(a)] OR = 8330, Ordinance
ClO = Perchlorate

The reason for these changes is:

Incorrectly marked on COC form _____
Lack of sample volume _____
Ogden office personnel require this change X
Other: Containers mislabeled __ _____

Thank you.

4229-9

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* LLA

Date: 12/15/97 There are 2 pages to transmit including this cover page.

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[(a)]	Method (s) Now Requested[(a)]
RF473	RF480	12/11/97	S & OG	S, OG & Pb

L9704229-17

(a) S = SVOCs, 8270SIM
Pb = Lead
OG= 8015OG, TPH

The reason for these changes is:

Incorrectly marked on COC form _____
Lack of sample volume _____
Ogden office personnel require this change X
Other: Containers mislabeled ___ _____

Thank you.

Columbia Analytical Services inc.

Friday, March 06, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9704229

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 12/9-12/1/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

0001

CAS CSR #L9704229

Table of Contents

Cover Letter 001
Acronym List 002
Case Narrative 003
Sample Delivery Group Assignment 004
Chain of Custodies 005-011
Semivolatile Organic Compounds Data 1000-1014
Semivolatile Organic Compounds Raw Data 2000-2072
Hydrocarbon Scan / Fuel Characterization Data 3000-3014
Hydrocarbon Scan / Fuel Characterization Raw Data 4000-4049
Metals Analytical Data 5000-5019
Metals Raw Data 6000-6062
Inorganic Parameters Analytical Data 7000-7009
Inorganic Parameters Raw Data 8000-8003
Columbia Analytical Services, Inc.-San Jose, CA Perchlorates ..... Appendix A
Paragon Laboratories Explosives ..... Appendix B

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9704229
Project:	Rocketdyne SSFL 313150002	**Date Received:**	12/9-12/1/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Perchlorate	Columbia Analytical Services, San Jose, CA.
Explosives/EPA 8330	Paragon Analytical, Fort Collins, CO.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via fax from Lisa Arrasmith on 12/10/97:
Take RS519 off hold and run Explosives 8330 and Perchlorate.
The following changes were requested via fax from Lisa Arrasmith on 12/15/97:
Add Lead to RF480.

MS/MSD analysis for 8270SIM was performed on sample RF475 from SDG L9704204.
MS/MSD analysis for 8015OG was performed on sample RS008 from SDG L9704259.

No difficulties were experienced during analysis of this batch:

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 3/6/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9704229**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 12/15/97 * See Note
SUMMARY / FINAL DUE: 12/29/97 / 1/12/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Hg CVAA 7471	Copper	Lead	ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	RF465	12/10/97	12/10/97	SOLID		X					X					X										
2	RF466	12/10/97	12/10/97	SOLID		X					X					X										
3	RF467	12/10/97	12/10/97	SOLID		X					X					X										
4	RF468	12/10/97	12/10/97	SOLID		X					X					X										
5	RF469	12/10/97	12/10/97	SOLID		X					X					X										
6	RF470	12/10/97	12/10/97	SOLID		X			X		X					X										
7	RF471	12/10/97	12/10/97	SOLID		X			X		X					X										
8	RF472	12/10/97	12/10/97	SOLID		X			X		X					X										
9	RS519	12/9/97	12/9/97	SOLID		X																X				X
10	RF473	12/11/97	12/12/97	SOLID		X		X											X							
11	RF474	12/11/97	12/12/97	SOLID		X		X											X							
12	RF475	12/11/97	12/12/97	SOLID		X		X											X							
13	RF476	12/11/97	12/12/97	SOLID		X		X											X							
14	RF477	12/11/97	12/12/97	SOLID		X		X											X							
15	RF478	12/11/97	12/12/97	SOLID		X		X																		
16	RF479	12/11/97	12/12/97	SOLID		X		X																		
17	RF480	12/11/97	12/12/97	SOLID		X		X	X											X						
18	RF481	12/11/97	12/12/97	SOLID		X		X																		
19	RF482	12/11/97	12/12/97	SOLID		X		X																		
20	RS552	12/11/97	12/12/97	SOLID		X					X															

Lead added to RF480 12/15/97

L9704204 OA 12/10

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF456
Date 12/10/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	

Cooler No:

QC Level: Level4

TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product		8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	SWMU		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RF456	HVBS35S01	1.5	12/10/97	0915	34	12	X						1					1				1			A1	AOC				1
RF457	HVBS35S02	5.0		0920		13	X						1					1				1								1
RF458	HVBS35S03	10.0	0935	~~0930~~		14	X						1					1				1								1
RF459	HVBS35S04	~~7.0~~		0940		15	X						1					1				1								1
RF460	HVBS36S01	1.5		1040	35	16	X											1				1								1
RF461	HVBS36S02	5.0		1045	35	17	X											1				1								1
RF462	HVBS36S03	8.0		1055	35	18	X											1				1								1
RF463	HVBS37S01	1.5		1130	36	19	X											1				1								1
RF464	HVBS37D01	1.5		1130	36	20	X											1				1								1
RF465	HVBS37S02	5.0		1135	36	1	X											1				1								1
RF466	HVBS37S03	10.0		1145	36	2	X											1				1								1
RF467	HVBS38S01	1.0		1220	38	3	X											1				1								1

12/10/97 OA

	Date	Time
Samplers Signature	12/10/97	1730
Relinquished By:	12/10/97	1730
Received By:	12/10/97	1730
Relinquished By:	12/10/97	1850
Received By (LAB):	12/10/97	1850

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples Y or N
Broken container: Y or N
Received within holding time Y or N
COC seal intact: Y or N NA
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 12°

REV: 1

0005

L9704229

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF468
Date 12/14/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						

Sample Data							Matrix				8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	SUM1		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product																					
RF466	HVBS39SA2	0.5	12/10/97	1230	38	4	X											1				1			A1ADL				1
RF469	HVBS39SB3	9.5		1240	38	5	X											1				1							1
RF470	HVBS39SA1	4.5		1515	33	6	X						1					1				1							1
RF471	HVBS39SA2	5.4		1515	33	7	X						1					1				1							1
RF472	HVBS39SA3	11.4		1534	33	8	X						1					1				1							1
														DB															
														12/14/97															

Samplers Signature	Date 12/10/97	Time 1730
Relinquished By:	Date 12/10/97	Time 1730
Received By:	Date 12/10/97	Time 1730
Relinquished By:	Date 12/10/97	Time 1850
Received By (LAB):	Date 12/10/97	Time 1850

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N (N/A)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 12°

REV: 1

L-9704204

L9704229-9

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 517

Date 12/9/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	

Cooler No:	
QC Level:	Level4
TAT:	14-day hardcopy summary 28-day full package

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4, pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Matrix: Soil	Matrix: Water	Matrix: Product	Matrix: SLUDGE	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	PERCHLORATES	SWMU	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
~~RS~~	~~SLSSØ4DØ1~~	~~0~~	~~12/9/97~~	~~0740~~	~~26~~																									
RS517	CLSSØ2DØ1	0	12/9/97	0800	30	16	X						X			X										4.7	G	X		1
RS518	HVSSØ4SØ1	0		930	46	7							X				X	X		~~X~~ KJ	~~X~~	X				AI	G			1
RS519	HVBS32SØ1	0.5		1000	44												X	X	X			X			X		HA		X	1
RS520	HVBS33SØ1	0.5		1010	47	18												X				X					HA			1
RS521	HVSUØ2SØ1	0		1045	42	19				X							X								X		G			1
RS522	HVSUØ3SØ1			1100	43	20	X										X								X		G			1
RS523	HVBS34SØ1	0.5		1130	29	1	X										X	X	X			X			X		HA			1
~~RS524~~	~~HVBS34DØ1~~	~~0.5~~		~~1130~~	~~29~~		X										~~X~~	~~X~~	~~X~~			~~X~~			~~X~~		~~HA~~	~~X~~		~~1~~
RS525	HVBS35SØ1			1200	48	2				X															X		G			1
	SSØ5 KJ																													
RS526	HVSUØ4SØ1	10		1545	23b	3				X			X				X	X				X					G			1

		Date	Time
Samplers Signature	KMJ	12/9/97	935
Relinquished By:	KJ	12/9/97	1910
Received By:	[signature]	12/9/97	1910
Relinquished By:	[signature]	12/9/97	1935
Received By (LAB):	[signature]	12/9/97	1935

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N NA

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 7°

REV: 1

L9704229

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF473
Date 12/11/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4,pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4 C | 4°C | 4°C | LEAD (Pb) * | Δ Pkgr (TCL) | | | | |

Sample Data							Matrix																						
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product		8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	LEAD (Pb) *	Δ Pkgr (TCL)	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RF473	LxBS4785Δ1	5.0	12/11/97	1345	7	10	X					1													1				1
RF474	LxBS4785Δ2	9.0		1355	7	11	X					1													1				1
RF475	LxBS4885Δ1	5.0		1415	6	12	X					1													1				1
RF476	LxBS4985Δ1	3.0		1415	9	13	X					1													1				1
RF477	LxBS4985Δ2	4.0		1415	9	14	X					1													1				1
RF478	BABS345Δ5	20.0		1222	48	15	X					1																	1
RF479	BABS345Δ6	26.0		1520	48	16	X					1																	1
RF480	BABS225Δ2	8'1"		1540	110	17	X					1	1											1					
RF481	BABS355Δ1	5.0		1640	45	18	X					1																	1
RF482	BABS355Δ2	7.0		1650	45	19	X					1																	1
															1	1													
															12/11/97														

SUMO: 4.5, 4.5, 4.5, 4.5, 4.5, 4.15

Samplers Signature	Date 12/11/97	Time 1715
Relinquished By:	Date 12/11/97	Time 1885
Received By:	Date 12/12/97	Time 1001
Relinquished By:	Date 12/12/97	Time 1001
Received By (LAB):	Date 12/12/97	Time 1000

8000

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time (Y) or N
COC seal intact: Y or N (NA)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 9.0

* NOTE: HOLD RF480 FOR LEAD (Pb) Analysis

Rel Kmt 12/12/97 1030 Rec'd Cynthia Burgess 12/12/97 1030

REV: 1

L 9704259
L 9704229

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RS 552
Date 12/11/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	

Cooler No:

QC Level: Level4

TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

SWMU	Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID (20)	Matrix: Soil	Matrix: Water	Matrix: Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
7.8	RS 552	NCBS09S01	0.5	12/11/97	1520	9		X										X							HA			1
A I	RS 553	CTBS01S02	↓	↓	1620	6	1.	↓															X		↓			↓
↓	RS 554	CTBS05S01			1630	9	2.																X					

KJ 12/11/97

Samplers Signature	KMJ	Date 12/11/97	Time 1540
Relinquished By:	KMJ	Date 12/11/97	Time 1825
Received By:	[signature]	Date 12/12/97	Time 1001
Relinquished By:	[signature]	Date 12/12/97	Time 1001
Received By (LAB):	KMat	Date 12/12/97	Time 1000

6000

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N NA
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 9°

Rel Kengmat 12/12/97 1030 Rec'd [signature] 12/12/97 1030

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* LLA

Date: 12/10/97 There is 1 Pages to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[(a)]	Method (s) Now Requested[(a)]
RS517	RS519	12/9/97	HOLD	ClO & OR

[(a)] OR = 8330, Ordinance
ClO = Perchlorate

The reason for these changes is:

Incorrectly marked on COC form ____
Lack of sample volume ____
Ogden office personnel require this change X
Other: Containers mislabeled ____

Thank you.

4229-9

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:*

Date: 12/15/97 There are 2 pages to transmit including this cover page.

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[(a)]	Method (s) Now Requested[(a)]
RF473	RF480	12/11/97	S & OG	S, OG & Pb

L9704229-17

(a) S = SVOCs, 8270SIM
Pb = Lead
OG= 8015OG, TPH

The reason for these changes is:

Incorrectly marked on COC form ____
Lack of sample volume ____
Ogden office personnel require this change X
Other: Containers mislabeled ____

Thank you.

Columbia Analytical Services inc.

Tuesday, February 24, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9703923

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 11/14-19/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

6925 Canoga Avenue ▪ Canoga Park, CA 91303 ▪ (818) 587-5550 ▪ Fax (818) 587-5555

CAS CSR #L9703923

Table of Contents

Cover Letter..... 001
Acronym List..... 002
Case Narrative..... 003
Sample Delivery Group Assignment..... 004
Chain of Custodies..... 005-013
Semivolatile Organic Compounds Analytical Data..... 1000-1018
Semivolatile Organic Compounds Raw Data..... 2000-2098
Metals Analytical Data..... 3000-3020
Metals Raw Data..... 4000-4068
Inorganic Parameters Analytical Data..... 5000-5029
Inorganic Parameters Raw Analytical Data..... 6000-6062
Columbia Analytical Services, Inc.-Kelso Formaldeyhde/Tributyltins Data..... Appendix A

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9703923
Project:	Rocketdyne SSFL 313150002	**Date Received:**	11/14-19/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Formaldehyde	Columbia Analytical Services, Kelso, WA.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via fax from Lisa Arrasmith on 11/19/97:
The following Sample ID's were changed: RF284 to RF302, RF287 to RF305, and RF288 to RF306.

MS/MSD analysis for 8270SIM was performed on sample RF262 from SDG L9703846.
One of four pH duplicates analyzed on RF311 from SDG L9703956.

The following difficulties were experienced during analysis of this batch:
For samples RF287 for 8270SIM analysis, sample matrix interfered with Terphenyl-d14 surrogate recovery.
Surrogates for 8270SIM for RF877DL, RF866DL & RF877DLDL were not reportable due to sample matrix requiring dilution.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 2/24/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9703923**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 11/19/97
SUMMARY / FINAL DUE: 12/3/97 / 12/17/97

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	LEAD / ICP			ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RF861**	11/14/97	11/14/97	SOLID		X			X		X			X	X	X					X					
2	**RF866**	11/14/97	11/14/97	SOLID		X			X		X			X	X	X					X					
3	**RF279**	11/14/97	11/14/97	SOLID		X										X		X								
4	**RF280**	11/14/97	11/14/97	SOLID		X					X					X										
5	**RF281**	11/14/97	11/14/97	SOLID		X					X					X										
6	**RF282**	11/14/97	11/14/97	SOLID		X			X		X			X	X	X										
7	**RF286**	11/17/97	11/17/97	SOLID		X			X		X					X										
8	**RF287**	11/17/97	11/17/97	SOLID		X			X		X					X										
9	**RF289**	11/17/97	11/17/97	SOLID		X			X		X					X										
10	**RF871**	11/17/97	11/17/97	SOLID		X					X					X										
11	**RF872**	11/17/97	11/17/97	SOLID		X					X					X										
12	**RF873**	11/17/97	11/17/97	SOLID		X			X		X			X	X	X										
13	**RF874**	11/17/97	11/17/97	SOLID		X			X					X	X											
14	**RF877**	11/17/97	11/17/97	SOLID		X			X																	
15	**RF879**	11/17/97	11/17/97	SOLID		X					X					X										
16	**RF290**	11/18/97	11/18/97	SOLID		X										X										
17	**RF302**	11/18/97	11/18/97	SOLID		X					X					X										
18	**RF305**	11/18/97	11/18/97	SOLID		X					X					X										
19	**RF306**	11/18/97	11/18/97	SOLID		X					X					X										
20	**RF310**	11/19/97	11/19/97	SOLID		X					X					X										

004

L9703923

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF 8601
Date 11 / 14 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H2SO4,pH<2 4°C | 4°C | HNO3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ		SIMU	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RF 8601	CLBS22S01	0.5	11/14/97	930	GH	1	X					X	X		X		X		X	X	X				4,7	HA			1
RF 8602	CLBS22S02	5		1020	GH		X					X	X		X		X		X	X	X							*	1
RF 8603	CLBS28S01	0.5		1425	GB	2	X					X	X		X		X		X	X	X							*	1
RF 8604	CLBS26S03	7.5		1130	GH		X					X	X		X		X		X	X	X							*	1

KJ 11/14/97

	Date	Time
Samplers Signature: KJ	11/14/97	1030
Relinquished By: KJ	11/14/97	1700
Received By:	11/14/97	1900
Relinquished By:	11/14/97	1850
Received By (LAB):	11/14/97	1852

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature C 7

* HOLD ALL TESTS.

REV: 1

005

L9703923

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF279
Date 11/14/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:		
QC Level:	Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C	4°C						

Sample Data							Matrix				8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	LEAD		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product																					
RF279	BABS225@1	5.0	11/14/97	1004	116	3	X															1			1					1
RF280	AUBS@25@1	2.0		1135	1	4	X											1				1								1
RF281	AUBS@35@1	2.0		1150	2	5	X											1				1								1
RF282	CLBS225@1	1.5	↓	1345	54	6	X						1					1		1	1	1								1

D5
11/14/97

Samplers Signature	Date	Time
	11/14/97	1750
Relinquished By:	Date	Time
	11/14/97	1750
Received By:	Date	Time
	11/14/97	1150
Relinquished By:	Date	Time
	11/14/97	1830
Received By (LAB):	Date	Time
	11/15/97	7:36

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature C 7

REV: 1

900

L9703923

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF 286 ~~RD~~ ~~DB~~

Date 11/17/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

ULS	Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Matrix: Soil	Water	Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	8315 ALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	218.6/300 NITRATE *	325 CHLORIDE *	9045/9040 pH	Extra Volume MS/MSD	HOLD	Total # of Bottles
9a	RF286	LFBS105Q1	5.5	11/17/97	1205	7 •	X					X				X					X			1
9a	RF287	LFBS105Q2	10.0	↓	1215	8 •	X					X				X					X			1
5	RF289	LFBS125Q1	5.0	↓	1605	9 •	X					X				X					X			1

DB 11/17/97

	Date	Time
Samplers Signature	11/17/97	1800
Relinquished By:	11/17/97	1800
Received By:	11/17/97	1800
Relinquished By:	11/17/97	1845
Received By (LAB):	11/17/97	1855

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 8C

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

007

L9703923

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF871
Date 11 / 17 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No: CP 9604
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4, pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	SWMU	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RF 871	LFBS06S01	0.5	11/17/97	935	20	10	X										X				X			4.12	HA			1
RF 872	LFBS06 D01			950	20	11	X										X				X					1		
RF 873	LFBS07S01			1045	21	12	X					X					X		X	X	X							
RF 874	LFBS07 D01			1045	21	13	X					X							X	X						1		
RF 877	CLBS32S01			1220	41	14	X					X												4.7				
RF 879	NCBS01S01			1640	3	15	X										X				X			7.8				

KJ 11/17 97

		Date	Time
Samplers Signature	KJ	11/17/97	1000
Relinquished By:	KJ	11/17/97	1700
Received By:			
Relinquished By:			
Received By (LAB):			

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 8°

REV: 1

800

L9703923

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF 290
Date 11/18/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	KJ ~~Mark Deffley~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

ULS	Sample ID	Description (for Ogden use only)	D	Date Collected	Time Collected	Lab ID	Soil	Water	Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	8315 ALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	218.6/300 NITRATE *	325 CHLORIDE *	9045/9040 pH	Extra Volume MS/MSD	HOLD	Total # of Bottles
10	RF290	LFBS02S02	5.0	11/18/97	1115	-16	X														X			1
32	RF291	LFBS16S01	0.5		1145		X														X			1
32	RF292	LFBS16S02	5.0		1150		X														X		1	1
31	RF293	LFBS17S01	1.0		1220		X														X		3	1
31	RF294	LFBS17S02	5.0		1225		X														X		1	1
8	RF295	LFBS18S02	~~0.5~~ 5.0		1240		X					X				X					X			1

J.B. 11/18/97

Samplers Signature	Thomas J. [signature] KJ	Date 11/18/97	Time 1755
Relinquished By:	[signature]	Date 11/18/97	Time 1820
Received By:	[signature]	Date 11/18/97	Time 1820
Relinquished By:	[signature]	Date 11/18/97	Time 1855
Received By (LAB):	[signature]	Date 11/18/97	Time 1855

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 6°

REV: 1

009

L9703923

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF 302 ~~RF 284~~

Date 11/18/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

ULS	Sample ID	Description (for Ogden use only)		Date Collected	Time Collected	Lab ID	Soil	Water	Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	8315 ALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	218.6/300 NITRATE *	325 CHLORIDE *	9045/9040 pH	Extra Volume MS/MSD	HOLD	Total # of Bottles
14	RF284	LFBS14S01	D1.5	11/18/97	0830	17	X									X					X			1
14	RF285	LFBS14S02	D6.0		0840		X									X					X		*	1
14	RF286	LFBS14S03	D10.5		0855		X									X					X		*	1
12	RF287	LFBS15S01	D1.5		0910	18	X									X					X			1
12	RF288	LFBS15S02	D5.5		0920	19	X									X					X			1
12	RF289	LFBS15S03	D10.5		0930	20	X									X					X			1

11/18/97

Samplers Signature: Thomas J. Bent	Date 11/18/97	Time 1000
Relinquished By: Thomas J. Bent	Date 11/18/97	Time 1035
Received By: [signature]	Date 11/18/97	Time 1010
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or ~~N~~ NA
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 8°

* Hold until approved
NOTE SAMPLE ID'S CHANGED PER FAX REQUEST 11/19 FROM L. ARRASMITH
CHANGE RF284 TO RF302
RF285 RF303
RF286 RF304
RF287 RF305
RF288 RF306
RF289 RF307 w/307 PUT ON HOLD

-LRAAB

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

010

L9 1C5923

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF310
Date 11/19/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Dettloy~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C

Sample Data						Matrix				8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	8315 ALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	218.6/300 NITRATE *	325 CHLORIDE *	9045/9040 pH	SW846	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Soil	Water	Product																	
RF310	LFBS19503	0.5	11/19/97	0835	-20	X										1					1	4.12			1
RF311	LFBS19502	5.0		0845		X										1					1				1
RF312	LFBS19D02	5.0		0845		X										1					1				1
RF313	LFBS19503	10.0		0855		X										1					1				1
RF320	ILBS19501	5.0		1425		X										1					1	4.3/4.4			1

DLS
11
11
11
11
13

DLS
11/19/97

	Date	Time
Samplers Signature	11/19/97	1815
Relinquished By:	11/19/97	1815
Received By:	11/19/97	1815
Relinquished By:	11/19/97	1902
Received By (LAB):	11/19/97	1900

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: (Y) or N
If any YES, Ogden contacted: (Y) or N
Date contacted: 11/19/97
Temperature °C 18°

11/19/97 DIXIE NOTIFIED THAT COOLERS REC'D W/O ICE -LR (@1930)

REV: 1

011

L9703123

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

5510 Morehouse Drive San Diego, CA 92121 (619) 458-9044 Fax Number (619) 458-0943

FACSIMILE TRANSMITTAL

We have 2 pages to send, including this page

Date:	11/19/97
To:	Mr. Leo Raab
Location:	Columbia Analytical Services
FAX Number:	(818) 587-5555
From:	Lisa L. Arrasmith

Leo,
The information I gave you earlier:

> "Dixie has requested that two samples for yesterday's mobile lab analyses be held. She did not have the COC, so I will give you all the information I have:
>
> | Sample ID | Ogden ID | Sample Date | |
> |---|---|---|---|
> | RD28x | LFBS14S02 | 11/18/97 | HOLD |
> | RD28x | LFBS14S03 | 11/18/97 | HOLD" |

This is INCORRECT. It is not the mobile lab samples, it is the fixed lab RF samples that need to be on hold (see the following table). The following table represents the sample ID changes that need to be implemented for COC RF284:

Old Sample ID	New Sample ID	Date Collected	Methods Requested
RF284	RF302	11/18/97	MetalsRT & pH
RF285	RF303	11/18/97	HOLD
RF286	RF304	11/18/97	HOLD
RF287	RF305	11/18/97	MetalsRT & pH
RF288	RF306	11/18/97	MetalsRT & pH
RF289	RF307	11/18/97	HOLD

L9703923

The COC control number also needs to be changed from RF284 to RF302.

COC RF283 also needs to be changed to RF308. The sample ID should also be changed from RF283 to RF308.

Can you please get me a list of mobile lab sample SDG designations do date?

Please call with any questions or comments.

Thanks

Columbia Analytical Services, Inc.

Tuesday, February 24, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9703923

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 11/14-19/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

6925 Canoga Avenue ▪ Canoga Park, CA 91303 ▪ (818) 587-5550 ▪ Fax (818) 587-5555

CAS CSR #L9703923

Table of Contents

Cover Letter..... 001
Acronym List..... 002
Case Narrative..... 003
Sample Delivery Group Assignment..... 004
Chain of Custodies..... 005-013
Semivolatile Organic Compounds Analytical Data..... 1000-1018
Semivolatile Organic Compounds Raw Data..... 2000-2098
Metals Analytical Data..... 3000-3020
Metals Raw Data..... 4000-4068
Inorganic Parameters Analytical Data..... 5000-5029
Inorganic Parameters Raw Analytical Data..... 6000-6062
Columbia Analytical Services, Inc.-Kelso Formaldeyhde/Tributyltins Data..... Appendix A

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9703923
Project:	Rocketdyne SSFL 313150002	**Date Received:**	11/14-19/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Formaldehyde	Columbia Analytical Services, Kelso, WA.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following changes were requested via fax from Lisa Arrasmith on 11/19/97:
The following Sample ID's were changed: RF284 to RF302, RF287 to RF305, and RF288 to RF306.

MS/MSD analysis for 8270SIM was performed on sample RF262 from SDG L9703846.
One of four pH duplicates analyzed on RF311 from SDG L9703956.

The following difficulties were experienced during analysis of this batch:
For samples RF287 for 8270SIM analysis, sample matrix interfered with Terphenyl-d14 surrogate recovery.
Surrogates for 8270SIM for RF877DL, RF866DL & RF877DLDL were not reportable due to sample matrix requiring dilution.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 2/24/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9703923**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 11/19/97
SUMMARY / FINAL DUE: 12/3/97 / 12/17/97

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	LEAD / ICP			ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	RF861	11/14/97	11/14/97	SOLID		X			X		X			X	X	X					X					
2	RF866	11/14/97	11/14/97	SOLID		X			X		X			X	X	X					X					
3	RF279	11/14/97	11/14/97	SOLID		X										X		X								
4	RF280	11/14/97	11/14/97	SOLID		X					X					X										
5	RF281	11/14/97	11/14/97	SOLID		X					X					X										
6	RF282	11/14/97	11/14/97	SOLID		X			X		X			X	X	X										
7	RF286	11/17/97	11/17/97	SOLID		X			X		X					X										
8	RF287	11/17/97	11/17/97	SOLID		X			X		X					X										
9	RF289	11/17/97	11/17/97	SOLID		X			X		X					X										
10	RF871	11/17/97	11/17/97	SOLID		X					X					X										
11	RF872	11/17/97	11/17/97	SOLID		X					X					X										
12	RF873	11/17/97	11/17/97	SOLID		X			X		X			X	X	X										
13	RF874	11/17/97	11/17/97	SOLID		X			X					X	X											
14	RF877	11/17/97	11/17/97	SOLID		X			X																	
15	RF879	11/17/97	11/17/97	SOLID		X					X					X										
16	RF290	11/18/97	11/18/97	SOLID		X										X										
17	RF302	11/18/97	11/18/97	SOLID		X					X					X										
18	RF305	11/18/97	11/18/97	SOLID		X					X					X										
19	RF306	11/18/97	11/18/97	SOLID		X					X					X										
20	RF310	11/19/97	11/19/97	SOLID		X					X					X										

L9703925

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF 861

Date 11 / 14 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick	Bill To:	Purchasing
Project Name:	Rocketdyne	Company:	Ogden Environmental
Project Number:	313150002	Address:	5510 Morehouse Drive, San Diego, CA 92121
Deliver results to the address above or as stated in contract			

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	SWMU	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
										HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4,pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C					
RF 861	CLBS22S01 5	0.5	11/14/97	930	64	1	X					X	X		X		X		X	X	X			4.7	HA			1
RF 862	CLBS22S02 6	5	↓	1020	64		X					X	X		X		X		X	X	X			↓	↓		*	1
RF 866	CLBS28S01	0.5		1425	63	2	X					X	X		X		X		X	X	X							1
RF 868	CLBS26S03	7.5	↓	1130	64		X					X			X		X		X	X	X			↓	↓		*	1

KJ 11/14/97

Samplers Signature	Date	Time
KJ	11/14/97	1030
Relinquished By: KJ	11/14/97	1700
Received By: [signature]	11/14/97	1700
Relinquished By: [signature]	11/14/97	1850
Received By (LAB): [signature]	11/14/97	1830

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: / /
Temperature C 7

* HOLD ALL TESTS.

1 Original, 2 Lab Copy, 3 Field Copy

REV. 1

005

L9703923

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF279
Date 11/14/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No:	
QC Level: Level4	TAT: 14-day hardcopy summary 28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4, pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	LEAD	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RF279	BABS22S01	5.0	11/14/97	1004	116	3	X														1			1				1
RF280	DUBS02S01	2.0		1135	1	4	X										1				1							1
RF281	DUBS03S01	2.0		1150	2	5	X										1				1							1
RF282	CLBS22S01	1.5	↓	1315	54	6	X					1					1		1	1	1							1

D&B
11/14/97

	Date	Time
Samplers Signature	11/14/97	1750
Relinquished By:	11/14/97	1750
Received By:	11/14/97	1750
Relinquished By:	11/14/97	1830
Received By (LAB):	11/14/97	1836

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 7

REV: 1

900

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC

Date 11/17/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Mark Deffley — Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:	
QC Level: Level4	TAT: 35 - Day

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C

Sample Data						Matrix				8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	8315 ALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	218.6/300 NITRATE *	325 CHLORIDE *	9045/9040 pH	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Soil	Water	Product																
RF286	LFBS105D1	5.5	11/17/97	1205	7	X						X				X					X			1
RF287	LFBS105D2	10.0		1215	8	X						X				X					X			1
RF289	LFBS125D1	5.5		1605	9	X						X				X					X			1

11/17/97

DLS 9a 9a 5

	Date	Time
Samplers Signature	11/17/97	1800
Relinquished By:	11/17/97	1800
Received By:	11/17/97	1900
Relinquished By:	11/17/97	1944
Received By (LAB):	11/17/97	1855

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N N/A

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: ___/___/___

Temperature °C 8.8

REV: 1

L9703923

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF871
Date 11 / 17 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	

Cooler No: CP 9604
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4 C; 4°C; 4°C

Sample Data

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Matrix: Soil	Matrix: Water	Matrix: Product	8260M VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8081 PCBs	IC HYDRAZ	SWMU	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RF871	LFBS06S01	0.5	11/17/97	935	20	10	X										X				X			4.12	HA			1
RF872	LFBS06D01	↓	↓	950	20	11	X										X				X			↓	↓	1		↓
RF873	LFBS07S01	↓	↓	1045	21	12	X					X					X		X	X	X			↓	↓			↓
RF874	LFBS07D01	↓	↓	1045	21	13	X					X							X	X				↓	↓	1		↓
RF877	CLBS32S01	↓	↓	1220	41	14	X					X												4.7	↓			↓
RF879	NCBS01S01	↓	↓	1640	3	15	X										X				X			7.8	↓			↓

KJ 11/17/97

Samplers Signature: KJ	Date: 11/17/97	Time: 1000
Relinquished By: KJ	Date: 11/17/97	Time: 1700
Received By: [signature]	Date: [illegible]	Time: [illegible]
Relinquished By: [signature]	Date: 11/17/97	Time: 1855
Received By (LAB): [signature]	Date: 11/17/97	Time: 1855

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N N/A
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: / /
Temperature °C 8°C

REV: 1

008

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

L9703925

Chain of Custody

Control Number: COC RF 290

Date 11/18/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~J-Mark Doffley~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:		
QC Level: Level4	TAT: 35 - Day	

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C

| Sample Data | | | | | | Matrix | | | | | |

L9710-3923

RF 302
~~RF 284~~

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC

Date 11/18/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

| Sample Data | | | | | | Matrix | | | Preservatives | | | | | |

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF310
Date 11/19/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Dolliver~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Federal Express
Comment:	* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C

| Sample Data | | | | | | Matrix | | | | | |

L9703923

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

5510 Morehouse Drive San Diego, CA 92121 (619) 458-9044 Fax Number (619) 458-0943

FACSIMILE TRANSMITTAL

We have 2 pages to send, including this page

Date:	11/19/97
To:	Mr. Leo Raab
Location:	Columbia Analytical Services
FAX Number:	(818) 587-5555
From:	Lisa L. Arrasmith

Leo,
The information I gave you earlier:

"Dixie has requested that two samples for yesterday's mobile lab analyses be held. She did not have the COC, so I will give you all the information I have:

Sample ID	Ogden ID	Sample Date	
RD28x	LFBS14S02	11/18/97	HOLD
RD28x	LFBS14S03	11/18/97	HOLD"

This is INCORRECT. It is not the mobile lab samples, it is the fixed lab RF samples that need to be on hold (see the following table). The following table represents the sample ID changes that need to be implemented for COC RF284:

Old Sample ID	New Sample ID	Date Collected	Methods Requested
RF284	RF302	11/18/97	MetalsRT & pH
RF285	RF303	11/18/97	HOLD
RF286	RF304	11/18/97	HOLD
RF287	RF305	11/18/97	MetalsRT & pH
RF288	RF306	11/18/97	MetalsRT & pH
RF289	RF307	11/18/97	HOLD

L9703923

The COC control number also needs to be changed from RF284 to RF302.

COC RF283 also needs to be changed to RF308. The sample ID should also be changed from RF283 to RF308.

Can you please get me a list of mobile lab sample SDG designations do date?

Please call with any questions or comments.

Thanks

Columbia Analytical Services, Inc.

Tuesday, February 24, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9703846

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 11/11-13/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

0001

CAS CSR #L9703846

Table of Contents

Cover Letter..... 001
Acronym List..... 002
Case Narrative..... 003
Sample Delivery Group Assignment..... 004
Chain of Custodies..... 005-011
Semivolatile Organic Compounds (SIM) Analytical Data..... 1000-1009
Semivolatile Organic Compounds (SIM) Raw Data..... 2000-2043
Semivolatile Organic Compounds Analytical Data..... 3000-3016
Semivolatile Organic Compounds Raw Data..... 4000-4069
Hydrocarbon Scan / Fuel Characterization Data..... 5000-5006
Hydrocarbon Scan / Fuel Characterization Raw Data..... 6000-6029
Metals Analytical Data..... 7000-7020
Metals Raw Data..... 8000-8050
Inorganic Parameters Analytical Data..... 9000-9020
Inorganic Parameters Raw Data..... 10000-10055
Columbia Analytical Services, Inc.-Kelso, WA Formaldehyde/Tributyltins..... Appendix A
Paragon Laboratories Explosives..... Appendix B

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9703846
Project:	Rocketdyne SSFL 313150002	**Date Received:**	11/11-13/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Formaldehyde	Columbia Analytical Services, Kelso, WA.
Explosives/EPA 8330	Paragon Analytical, Fort Collins, CO.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

Cooler temperatures were recorded on COCs except for Control Nos. RF832 & RF261.

The following changes were requested via fax from Lisa Arrasmith on 12/15/97:
Add MetalsRT plus Aluminum and Boron to RF839.
The following changes were requested via fax from Lisa Arrasmith on 12/17/97:
Add 8015OG-TPH to RF262.

MS/MSD analysis for 8015OG-TPH was performed on sample RF494 from SDG L9704312.
MS/MSD analysis for 8270R was performed on sample RF907 from SDG L9703956.
MS/MSD analysis for Aluminum & Boron was performed on sample RF458 from SDG L9704204.
MS/MSD analysis for Fluoride was performed on sample RF837 from SDG L9703814.

No difficulties were experienced during analysis of this batch.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 2/24/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9703846**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 12/17/97 * See Note
SUMMARY / FINAL DUE: 12/31/97 / 1/14/98

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	Arsenic			ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	RF839	11/11/97	11/11/97	SOLID		X			X			X														
2	RF242	11/11/97	11/11/97	SOLID		X					X					X										
3	RF243	11/11/97	11/11/97	SOLID		X					X					X										
4	RF244	11/11/97	11/11/97	SOLID		X					X					X										
5	RF245	11/11/97	11/11/97	SOLID		X					X					X										
6	RF246	11/11/97	11/11/97	SOLID		X										X		X								
7	RF247	11/11/97	11/11/97	SOLID		X										X		X								
8	RF248	11/11/97	11/11/97	SOLID		X										X		X								
9	RF261	11/12/97	11/12/97	SOLID		X			X												X					
10	RF262	11/12/97	11/12/97	SOLID		X		X	X					X	X	X					X					
11	RF250	11/12/97	11/12/97	SOLID		X				X																X
12	RF251	11/12/97	11/12/97	SOLID		X				X																X
13	RF253	11/12/97	11/12/97	SOLID		X				X																X
14	RF254	11/12/97	11/12/97	SOLID		X								X	X											-
15	RF255	11/12/97	11/12/97	SOLID		X								X	X											
16	RF256	11/12/97	11/12/97	SOLID		X								X	X											
17	RF257	11/12/97	11/12/97	SOLID		X								X	X											
18	RF258	11/12/97	11/12/97	SOLID		X								X	X											
19	RF264	11/13/97	11/13/97	SOLID		X			X												X					
20	RF265	11/13/97	11/13/97	SOLID		X			X												X					

Metals added to RF839 12/15/97 TPH added 12/17/97

L9103846

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF832

Date 11/11/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: Federal Express

Comment:

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No: CP 9737

QC Level: Level4 TAT: 35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; H2SO4, pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

ULS	Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Matrix: Soil	Matrix: Water	Matrix: Product	Matrix: Sludge	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	SAMPLING METHOD	SWMU	Extra Volume MS/MSD	HOLD *	Total # of Bottles
16	RF832	AABS16S02	4.5	11/11	0845					X			X	X									HA	5.9.0.11		X	1
37	RF835	CLBS16S01	0.5		1350		X						1		1							1	HA	4.7			1
19	RF836	CLBS17S01	0.5		1445		X										1					1					1
23	RF837	CLBS18S01	0.5		1530		X										1		1	1	1	1					1
46	RF838	CLBS19S01	0.5		1550		X										1		1	1	1	1					1
41	RF839	CLBS20S01	0.5		1630	1	X						1														1

KJ 11/11/97

	Date	Time
Samplers Signature: K Jamieson	11/11/97	1400
Relinquished By: KJ	11/11/97	1730
Received By: [signature]	11/11/97	1730
Relinquished By: [signature]	11/11/97	
Received By (LAB): [signature]	11/11/97	1925

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N NA

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C

*Hold Dioxin Test until approved

REV: 1

0005

L9703846

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF242

Date 11/11/97 - Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Mark Deffley
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: Federal Express

Comment:

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:

QC Level: Level4 TAT: 35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

ULS	Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Matrix: Soil	Water	Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	8315 ALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	218.6/300 NITRATE *	325 CHLORIDE *	9045/9040 pH	ARSENIC	Extra Volume MS/MSD	HOLD	Total # of Bottles
1	RF242	NCBS025001	0.5	11/11/97	1435	2	X									1					1				1
1	RF243	NCBS025002	6.0		1440	3	X									1					1				1
2	RF244	NCBS035001	0.5		1500	4	X									1					1				1
2	RF245	NCBS035002	5.0		1510	5	X									1					1				1
1	RF246	ELBS015001	0.5		1635	6	X														1	1			1
2	RF247	ELBS025001	0.5		1646	7	X														1	1			1
2	RF248	ELBS025002	6.0		1650	8	X														1	1			1

DB 11/11/97

	Date	Time
Samplers Signature	11/11/97	1836
Relinquished By:	11/11/97	1836
Received By: KT	11/11/97	1836
Relinquished By:	11/11/97	1925
Received By (LAB):	11/11/97	1925

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time Y or N

COC seal intact: Y or N NA

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 7°

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

0006

L97C3546

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF261
Date 11/12/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:		
QC Level: Level4	TAT: 35 - Day	

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | HNO3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Matrix: Soil	Water	Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	8315 ALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	218.6/300 NITRATE *	325 CHLORIDE *	9045/9040 pH	Extra Volume MS/MSD	HOLD	Total # of Bottles
RF261	SLB5045001	1.0	11/12/97	1540	9	X					1		1										1
RF262	SLB5055001	1.0	↓	1620	10	X					1		1				1	1	1	1			1

DB 11/12/97

ULS 25 1

	Date	Time
Samplers Signature	11/12/97	1730
Relinquished By:	11/12/97	1730
Received By:	11/12/97	1450
Relinquished By:	11/12/97	1855
Received By (LAB):	11/12/97	1935

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N (NA)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C

REV: 1

7000

L9703846

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF252
Date 11/12/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:		
QC Level: Level4	TAT: 35 - Day	

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | HNO3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

Sample Data / Matrix

ULS	Sample ID	Description (for Ogden use only) Depth	Date Collected	Time Collected	Lab ID	Soil	Water	Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	8315 ALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	218.6/300 NITRATE *	325 CHLORIDE *	9045/9040 pH	8270(RS)*	Extra Volume MS/MSD	HOLD	Total # of Bottles
4	RF250	CFB5175D1 4.0	11/12/97	0930	11	X								1							1			1
4	RF251	CFB5176D1 3.5		0931	12	X								1							1			1
3	RF253	CFB5195D1 0.5		1005	13	X								1							1			1
1	RF254	CFB5205D1 1.5		1100	14	X							Delete	1			1	1	1					1
5	RF255	CFB5215D1 0.5		1134	15	X											1	1	1					1
10	RF256	CFB5225D1 1.5		1155	16	X											1	1	1					1
10	RF257	CFB5225D2 6.0		1205	17	X											1	1	1					1
10	RF258	CFB5225D3 10.0		1210	18	X											1	1	1					1

DB 11/12/97

	Date	Time
Samplers Signature	11/12/97	1730
Relinquished By:	11/12/97	1730
Received By:	11/12/97	1730
Relinquished By:	11/12/97	1852
Received By (LAB):	11/13/97	1035

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N (NA)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 7

* FULL SUITE, 8270R

00083

REV: 1

L9703846

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF264
Date 11/13/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ DB Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C										

Sample Data						Matrix																									
Sample ID	Description (for Ogden use only) DEPTH		Date Collected	Time Collected	Lab ID	Soil	Water	Product		8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	8315 ALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	218.6/300 NITRATE *	325 CHLORIDE *	9045/9040 pH	SW/MU						Extra Volume MS/MSD	HOLD	Total # of Bottles
RF264	SLBS0665	1.5	11/13/97	0930	19	X						1		1								6.5								1
RF265	SLBS0750	0.5	↓	1020	20	X						1		1								6.5								1

DB
11/13/97

	Date	Time
Samplers Signature	11/13/97	1700
Relinquished By:	11/13/97	1700
Received By:	11/13/97	1900
Relinquished By:	11/13/97	1955
Received By (LAB):	11/13/97	1755

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N N/A
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 10

REV: 1

6009

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:*

Date: 12/15/97 There is 1 Page to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[a]	Method (s) Now Requested[a]
RF832	RF839	11/11/97	S	S & M+

L9703846-1

[a] S = SVOCs, 8270SIM
M+ = MetalsRT + Al & B

The reason for these changes is:

Incorrectly marked on COC form ____
Lack of sample volume ____
Ogden office personnel require this change X
Other: Containers mislabeled ____

Thank you.

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* LLA

Date: 12/17/97 There is 1 Page to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[a]	Method (s) Now Requested[a]	
RF261	RF262	11/12/97	S, F, Fl, A & pH	S, F, Fl, A, pH & OG*	3846-10
RS559	RS563	12/15/97	S +	S & OG* —	CANCELED
RD360	RD362	11/25/97	OG & V	OG, V, S & F	⊛

[a] S = SVOCs, 8270SIM
Fl = 340.2, Fluoride
A= Anions, 300
F = Formaldehyde, ASTM D19
OG= 8015OG, TPH
V = 8021, Volatiles

⊛ SAMPLE PREVIOUSLY RETURNED TO CLIENT - NOT AVAILABLE TO TEST.

+ ORIGINALLY ON HOLD PER COC

***Please send chromatograms and results to Elizabeth Wessling at Ogden, Denver.**

The reason for these changes is:

Incorrectly marked on COC form	
Lack of sample volume	
Ogden office personnel require this change	X
Other: Containers mislabeled	

Thank you.

0011

Paragon Analytics, Inc.

Explosives by HPLC Case Narrative

Columbia Analytical

SDG# L9703846

Order Number - 9711171

1. This report consists of 3 soil samples received by Paragon on 11/15/97.

2. These samples were extracted and analyzed according to SW-846, 3rd Edition procedures. Specifically, the samples were extracted and analyzed using procedures based on the protocols given in Method 8330.

3. The extracts were then analyzed using HPLC with a UV detector with a LC-18 column according to protocols based on Method 8330. All positive results are then confirmed on a LC CN column. Quantitations are taken from the primary column, unless interferences are encountered.

4. All samples were extracted and analyzed within the established holding times.

5. The method blank associated with this project was below the reporting limits for all analytes.

6. All blank spike and blank spike duplicate recoveries and RPDs were within the acceptance criteria.

7. All surrogate recoveries were within acceptance criteria.

8. All initial and continuing calibration criteria were within acceptance criteria.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Roland P. Bruggeman — 12-10-97
Roland P. Bruggeman — Date
Organics Manager

Reviewer's Initials — 12-10-97
Reviewer's Initials — Date

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

Columbia Analytical Services Inc. 6925 Canoga Avenue • Canoga Park, CA 91303 • (818) 587-5550 • Fax (818) 587-5555

DATE 11-14 PAGE 1 OF 6

PROJECT NAME # 3/3/50002

PROJECT MANAGER Ted Raab

COMPANY/ADDRESS Columbia Analytical Canoga Park CA PHONE

SAMPLERS SIGNATURE

ANALYSIS REQUESTED 9711171

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	TPH Gas/BTEX 8015/8020/602	TPH/8015 Modified Diesel ☐ FC ☐ Gasoline ☐	BTEX 602/8020	Total Petroleum Hydrocarbons EPA 418.1	Halogenated Volatiles 601/8010	Volatile Organics GC/MS 624/8240/8260	Base Neutral Acid Organic GC/MS 625/8270	CAM Metals 6010/7000	8330 ordnance						REMARKS
RE 250	11-12	0930	L9703846	Soil	1									✓					4 days	01
RE 251	11-12	0931	L9703846	Soil	1									✓						02
RE 253	11-12	1005	L9703846	Soil	1									✓						03
														TF 11/15/97						

RELINQUISHED BY:
Signature: Janet Wick
Printed Name: Janet Wick
Firm: PAI
Date/Time: 11/14/97 6:00

RECEIVED BY:
Signature
Printed Name
Firm: FEDX
Date/Time

TURNAROUND REQUIREMENTS
___ 24 hr ___ 48 hr. ___ 5 day
___ Standard
___ Other (Specify)
___ Provide Verbal Preliminary Results
Requested Report Date

REPORT REQUIREMENTS
___ I. Routine Report
___ II. Report (includes DUP.MS MSD, as required, may be charged as samples)
X III. Data Validation Report (includes All Raw Data)
___ RWQCB
TF 11/15/97

INVOICE INFORMATION:
P.O.#
Bill To

SAMPLE RECEIPT:
Shipping VIA: Fed X
Shipping #: 021 2104 000
Condition: 791 9158 565
Lab No.

RELINQUISHED BY:
Signature
Printed Name
Firm: FEDX
Date/Time

RECEIVED BY:
Signature: T Bayley
Printed Name: T BAYLEY
Firm: PAI
Date/Time: 11/15/97 940A

SPECIAL INSTRUCTIONS/COMMENTS:

Columbia Analytical Services inc.

Thursday, February 19, 1998

Anne Freed
Ogden
5510 Morehouse Drive
San Diego, CA 92121

Re: Rocketdyne SSFL / Project No. 313150002 / CAS SDG No. L9703679

Dear Anne:

Enclosed are the results of the samples submitted to our laboratory on 10/28 - 29/97.

All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply only to the samples analyzed. Columbia Analytical Services is not responsible for use of less than the complete report.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 1296, expiration August 1998).

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Leo Raab
Project Chemist

Stuart Sigman
Quality Assurance Chemist

xc:
Elizabeth Wessling
Ogden
550 S. Wadsworth Blvd., Suite 500
Lakewood, CO 80226

001

CAS CSR #L9703679

Table of Contents

Cover Letter..... 001
Acronym List..... 002
Case Narrative..... 003
Sample Delivery Group Assignment..... 004
Chain of Custodies..... 005-008
Semivolatile Organic Compounds Analytical Data..... 1000-1018
Semivolatile Organic Compounds Raw Data..... 2000-2097
Polychlorinated Biphenyls (PCBs) Analytical Data..... 3000-3010
Polychlorinated Biphenyls (PCBs) Raw Data..... 4000-4039
Metals Analytical Data..... 5000-5023
Metals Raw Data..... 6000-6055
Inorganic Parameters Analytical Data..... 7000-7019
Inorganic Parameters Raw Analytical Data..... 8000-8057
Columbia Analytical Services, Inc.-Kelso Formaldeyhde/Tributyltins Data..... Appendix A
Triangle Laboratories Dioxins/Furans Data..... Appendix B

Columbia Analytical Services, Inc.

Acronyms

8015M	California DHS LUFT Method
A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
CRDL	Contract Required Detection Limit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH or DHS	Department of Health Services
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U.S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl-*tert*-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 18th Ed., 1992.
STLC	Solubility Threshold Limit Concentration
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristics Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ogden	**Service Request No.:**	L9703679
Project:	Rocketdyne SSFL 313150002	**Date Received:**	10/28-29/97
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with our laboratory's quality assurance program. This report contains analytical results for sample(s) designated for Tier III data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), Duplicate Matrix Spike (DMS) and Laboratory Control Sample (LCS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

Refer to the "Sample Delivery Group Assignment" form for a listing of Ogden (EPA) Sample ID's versus Columbia Analytical Services' SDG/Service Request numbers, sample dates, received dates, matrix and requested analyses. Any tests marked under the grey-shaded parameters to the far right of this form were sub-contracted to the following laboratories:

Formaldehyde	Columbia Analytical Services, Kelso, WA.
Dioxins/Furans/EPA 8290	Triangle Lab, Durham, NC.

Subcontracted test results, case narratives and data packages are included as an appendix to this report.

The following changes were requested via fax from Lisa Arrasmith on 10/30/97:
Add on 8270 SIM, Formaldehyde, Aluminum and Boron to RF 721. Add on 8270 SIM and Formaldehyde to RF722. Fluoride, Anions and pH were cancelled on RF721 & RF722.

MS/MSD analysis for 8080-PCB was performed on sample RF678 from SDG L9703578.
Laboratory Control Samples are liquids. For solid SDGs, data is calculated and reported in solid units.

The following difficulties were experienced during analysis of this batch:
Surrogates for 8270SIM for RF723DL, RF728DL, RF723DLDL & RF726DLDL were not reportable due to sample matrix requiring dilution. Surrogate for 8270SIM for RF126DL was slightly above range for one of three surrogates.

Data Qualifier Flags are: U = Not Detected, E = Estimated Value above calibration range, J = Estimated Value between MDL and PQL.

Approved by: _____ Date: 2/19/98

SAMPLE DELIVERY GROUP ASSIGNMENT

CLIENT: **OGDEN**
PROJECT MANAGER: **DIXIE HAMBRICK**
PROJECT NAME: **ROCKETDYNE SSFL**
PROJECT NUMBER: **313150002**

SDG NUMBER: **L9703679**
LABORATORY: COLUMBIA ANALYTICAL SRV.
SDG CLOSING DATE: 10/30/97 * See Note
SUMMARY / FINAL DUE: 11/13/97 / 11/26/97

#	SAMPLE NAME	SAMPLE DATE	RECEIVED DATE	MATRIX	MS/MSD or MS/DUP	MOISTURE	8260 VOC	8015OG TEPH	8270 SIM	8270 R	METALS (CAM-17)	METALS (CAM-17 + AL + B)	7196 HEXAVALENT CHROMIUM	340.2 FLUORIDE	300.0M ANIONS (CL NO3 NO2)	9040 / 9045 PH	8080 PCB	ICP AL & B			ASTM D19 FORMALDEHYDE	PERCHLORATE	TRIBUTYLTIN	8290 DIOXIN/FURAN	HYDRAZINES	8330 EXPLOSIVES
1	**RF713**	10/28/97	10/28/97	SOLID		X					X					X										
2	**RF714**	10/28/97	10/28/97	SOLID		X					X					X										
3	**RF715**	10/28/97	10/28/97	SOLID		X					X			X	X	X								X		
4	**RF716**	10/28/97	10/28/97	SOLID		X							X				X									
5	**RF717**	10/28/97	10/28/97	SOLID		X					X		X			X										
6	**RF718**	10/28/97	10/28/97	SOLID		X					X		X			X										
7	**RF719**	10/28/97	10/28/97	SOLID		X					X		X			X										
8	**RF720**	10/28/97	10/28/97	SOLID		X					X		X			X										
9	**RF721**	10/28/97	10/28/97	SOLID		X			X					C	C	C		X			X					
10	**RF722**	10/28/97	10/28/97	SOLID		X			X					C	C	C					X					
11	**RF723**	10/28/97	10/28/97	SOLID		X			X									X			X					
12	**RF124**	10/28/97	10/28/97	SOLID		X			X																	
13	**RF126**	10/28/97	10/28/97	SOLID		X			X																	
14	**RF127**	10/28/97	10/28/97	SOLID		X			X																	
15	**RF128**	10/28/97	10/28/97	SOLID		X			X																	
16	**RF726**	10/29/97	10/29/97	SOLID		X			X												X					
17	**RF728**	10/29/97	10/29/97	SOLID		X			X		X			X	X	X										
18	**RF729**	10/29/97	10/29/97	SOLID		X											X									
19	**RF731**	10/29/97	10/29/97	SOLID		X					X					X										
20	**RF732**	10/29/97	10/29/97	SOLID		X					X					X										

cancelled & added to RF721 & RF722 10/30

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

L9703679

Chain of Custody

Control Number: COC RF 713

Date 10 / 28 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	~~Mark Deffley~~ PURCHASING
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:			
QC Level:	Level4	TAT:	35 - Day

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C

ULS # 9451 9-1-3 2-29-30 4EA

Sample Data						Matrix				8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	Al, B	SWMU	RCRA		SAMPLING METHOD	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Soil	Water	Product	SLUDGE																					
RF 713	NCSSØ1SØ1	Ø	10/28/97	0840	1	X										1					1		7.8			G			1
RF 714	NCSSØ2SØ1	Ø		0840	2	X										1					1		7.8			G			1
RF 715	LFSSØ1SØ3	Ø		0955	3				X				1			1		1	1	1	1		4.12			G		~~*~~	1
RF 716	ILSSØ2SØ2 KJ	Ø		~~H30~~ KJ	4	X KJ			X							~~1~~	1				~~1~~ KJ		4.3	1		G			1
	3501			1400	5							KJ																	
RF 717	APSSØ1SØ1	Ø		1500	5	X										1	1				1		5.6			G			1
RF 718	APSSØ2SØ1	Ø		1505	6	X										1	1				1		5.6			G			1
RF 719	APSSØ3SØ1	Ø		1505	7	X										1	1				1		5.6			G			1
RF 720	APSSØ4SØ1	Ø		1505	8	X										1	1				1		5.6			G			1
RF 721	CLSSØ1SØ1	Ø		~~1600~~ 1615 KJ	9	X								1 KJ				1	1	1	1		4.7			G			1
RF 722	CLSSØ2SØ1	Ø		~~1610~~ 1625 KJ	10	X								1 KJ				1	1	1	1		4.7			G			1
RF 723	CLSSØ3SØ1	Ø	↓	1610	11	X						1		1								1	4.7			G			1

Samplers Signature	K.M. Jamieson	Date	10/28/97
Relinquished By:	K.M. Jamieson	Date	10/28/97
Received By:		Date	10/28/97
Relinquished By:		Date	10/28/97
Received By (LAB):		Date	10/28/97

	Time
Samplers Signature	0850
Relinquished By:	1820
Received By:	1820
Relinquished By:	1855
Received By (LAB):	1855

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

*~~HOLD DIOXIN TEST UNTIL OGDEN AUTHORITIES ORD.~~ KJ

Do COC match samples: (Y) or N

Broken container: Y or (N)

Received within holding time: (Y) or N

COC seal intact: Y or N (NA)

Any other problems: Y or (N)

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 3

3°/Intact

REV: 1

L9703679

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RF124

Date 10/28/97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Mark Deffley
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: Federal Express

Comment:

* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:

QC Level: Level4 TAT: 35 - Day

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

Sample ID	Description (for Ogden use only)		Date Collected	Time Collected	Lab ID	Matrix: Soil	Matrix: Water	Matrix: Product	8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
RF124	BABS05S01	1.0	10-28-97	1025	12	X					X										B			
RF126	BABS05S02	5.5	"	1040	13	X					X										B			
RF127	BABS05D02	5.5	"	1040	14	X					X										B			
RF128	BABS05S03	10.0	"	1050	15	X					X										B			

AAS 10-28-97

	Date	Time
Samplers Signature: A. Sm	10-28-97	1445
Relinquished By: A. Sm	10-28-97	1445
Received By: [signature]	10/28/97	1445
Relinquished By: [signature]	10/28/97	1855
Received By (LAB): Christelle Bragg	10/28/97	1855

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N NA

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 3

3° / Intact

REV: 1

006

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

L9703679

Chain of Custody

Control Number: COC RF 7216

Date 10 / 29 / 97 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To: KJ ~~Mark Deffley~~ PURCHASING	
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Federal Express
Comment:
* CHLORIDE & NITRATE WILL USE ONE CONTAINER

Cooler No:		
QC Level: Level4	TAT: 35 - Day	

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	H_2SO_4,pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C

Sample Data						Matrix				8260M VOC	8015OG HYDROCARBON	8270SIM PAH	8290 DIOXIN	3500 FORMALDEHYDE	8330 ORDINANCE	6010/7000 METALSRT	7196 CrVI	340.2 FLUORIDE	300 NITRATE/NITRITE*	300 CHLORIDE *	9045/9040 pH		PCBs			SWMU SAMPLING METHOD	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	DEPTH	Date Collected	Time Collected	Lab ID	Soil	Water	Product	SLUDGE																				
RF 7216	AFSS01S01	0	10/29/97	0810	16	X						1		1												4.9	G			1
RF728	OCBS10S01	0.5		1135	17				X			1				1		1	1	1	1					7.4	HA			1
RF729	OCBS11S01	0.5		1215	18	X															10 KJ		1			7.4	HA			1
RF731	BLBS04S01	0.5		1415	19	X										1					1					7.1				1
RF732	BLBS05S01	0.5		1430	20	X										1					1									1
RF733	BLBS06S01	0.5		1500		X										1					1									1
RF734	BLBS07S01	0.5		~~1600~~ 1600	KJ	X										1					1									1
RF735	BLBS08S01	0.5	↓	~~1600~~ 1600		X										1					1					↓	↓			1

K Jamison 10/29/97

Samplers Signature: K Jamison	Date: 10/29/97	Time: 0820
Relinquished By: K Jamison	Date: 10/29/97	Time: 1745
Received By:	Date: 10/29/97	Time: 1745
Relinquished By:	Date: 10/29/97	Time: 1835
Received By (LAB):	Date: 10/29/97	Time: 1835

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N
Broken container: Y or (N)
Received within holding time: (Y) or N
COC seal intact: Y or N (NA)
Any other problems: Y or (N)
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C 14

REV: 1

OGDEN *ENVIRONMENTAL AND ENERGY SERVICE*

5510 Morehouse Drive
San Diego, CA 92121-1709
(619) 458-9044
fax: (619) 458-0943

FACSIMILE

To: Mr. Leo Raab/Columbia Analytical Services
Fax No.: (818) 587-5555

From: Lisa L. Arrasmith *sign:* Lisa L Arrasmith

Date: 10/30/97 There is 1 Page to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	Date Collected	Method (s) Originally Requested[a]	Method (s) Now Requested[a]	
RF702	RF702	10/27/97	S, M & pH	S, M+ & pH	L9703698-19
RF702	RF703	10/27/97	S, M+ & pH	HOLD	–
RF702	RF704	10/27/97	S, M+ & pH	HOLD	–
RF713	RF721	10/28/97	Fl, A & pH	S, F, Al & B	L9703679-9
RF713	RF722	10/28/97	Fl, A & pH	S & F	-10

[a] S= 8270 SIM, semi-volatile organics
M= Metals
M+= Metals + Aluminum (Al) & Boron (B)
Fl= 340.2, Fluoride
F= 3500, Formaldehyde
A= Anions

The reason for these changes is:

Incorrectly marked on COC form	
Lack of sample volume	
Ogden office personnel require this change	X
Other: Containers mislabeled __	

Thank you.

TRIANGLE LABS

CASE NARRATIVE

Analysis of Samples for the Presence of

Polychlorinated Dibenzo-*p*-Dioxins and Dibenzofurans by

High-Resolution Chromatography / High-Resolution Mass Spectrometry

Method 8290 Rev. 0 (9/94)

Date:	November 13, 1997
Client ID:	Columbia Analytical Services
P.O. Number:	
TLI Project Number:	43820

This report should only be reproduced in full. Any partial reproduction of this report requires permission from Triangle Laboratories, Inc.

Rev. 05/08/97

Triangle Laboratories, Inc.
801 Capitola Drive
Durham, NC 27713-4411
919-544-5729
P.O. Box 13485
Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

Overview

The sample and any associated QC samples were extracted and analyzed according to procedures described in EPA Method 8290 Rev. 0 (9/94). Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. Results reported relate only to the items tested.

Quality Control Samples

A laboratory method blank, identified as the TLI Blank, was prepared along with the sample.

Laboratory control spike (LCS) and laboratory control spike duplicate (LCSD) samples were extracted and analyzed along with the samples. A report summarizing the analyte recoveries and relative percent differences for these samples is included in the data package.

Quality Control Remarks

This release of this particular set of Columbia Analytical Services analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample receipt: One sludge sample was received from Columbia Analytical Services at 4 °C in good condition on October 30, 1997 and was stored in a refrigerator at 4 °C. Additional sample was received from Columbia Analytical Services at 4 °C in good condition on November 5, 1997 and was stored in a refrigerator at 4 °C.

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review: The additional sample was composited with the original sample. Then, another percent moisture determination was performed prior to extraction.

Other Comments: No analytes were detected in the method blank.

Average continuing calibration (Concal) response factors are used instead of average initial calibration (Ical) response factors for all analyte and labeled standard calculations in sample(s) with a beginning and ending calibration listed on the quantitation report. Average response factors are used when the ending Concal meets Method 8290 ending Concal requirements but not beginning Concal requirements. The average response factor is an average of the factors from the beginning and ending Concals.

Sample Calculations:

Analyte Concentration

The concentration or amount of any analyte is calculated using the following expression.

$$C_{(\sigma)} = \frac{A_\sigma * Q_\beta}{A_\beta * RRF_{(\sigma)} * W}$$

Where:

$C_{(\sigma)}$ is the concentration or amount of a given analyte,

A_σ is the integrated current for the characteristic ions of the analyte,

A_β is the integrated current of the characteristic ions of the corresponding internal standard,

Q_β represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Detection Limits

The detection limit reported for a target analyte that is not detected or presents an analyte response that is less than 2.5 times the background level is calculated by using the following expression. The area of the analyte is replaced by the noise level measured in a region of the chromatogram clear of genuine GC signals multiplied by an empirically determined factor. The detection limits represent the maximum possible concentration of a target analyte that could be present without being detected.

$$DL_{(\sigma)} = \frac{2 * 2.5 * (F * H) * Q_{\beta}}{A_{\beta} * RRF_{(\sigma)} * W}$$

Where:

$DL_{(\sigma)}$ is the estimated detection limit for a target analyte,

2.5 is the minimum response required for a GC signal,

F is an empirical number that approximates the area to height ratio for a GC signal. This number is 3.7 for both the DB-5 GC column and the DB-225 GC column,

H is the height of the noise

A_{β} is the integrated current of the characteristic ions of the corresponding internal standard,

Q_{β} represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Data Flags

In order to assist with data interpretation, data qualifier flags are used on the final reports. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A **'B'** flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag will be used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample. Under Triangle Laboratories guidelines, a laboratory blank is acceptable if the tetra- through hepta-CDD/CDF levels are all below the target detection limits (TDLS) or if the contamination levels are less than 5% of the levels detected in the associated field samples.

If these conditions are satisfied or if the blank is unable to be reextracted, the interpretation of the contamination levels relative to the samples should be as follows: 1) analyte quantitations should be considered valid if the level of blank contamination is less than five percent of the level detected in the field sample, 2) analyte quantitations should be considered estimated if the analyte level in the sample is five to twenty times the level of the analyte in the blank, or 3) analytes whose level in a sample is the same as or less than five times the level detected in the associated blank should be considered present likely due to laboratory contamination and not native to the sample.

An **'E'** flag is used to indicate that an PCDF peak has eluted at the same time as the associated diphenyl ether (DPE) and that the DPE peak intensity is ten percent or more of the PCDF peak intensity. Total PCDF values are flagged 'E' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are quantitated with EMPC values, regardless of the isotopic abundance ratio. These EMPC values are most likely overestimated due to the DPE contribution to the peak area.

An **'I'** flag is used to indicate labeled standards have been interfered with on the GC column by coeluting, interferent peaks. The interference may have caused the standard's area to be overestimated. All quantitations relative to this standard, therefore, may be underestimated.

A **'PR'** flag is used to indicate that a GC peak is poorly resolved. This resolution problem may be seen as two closely eluting peaks without a reasonable valley between the peak tops, overly broad peaks, or peaks whose shapes vary greatly from a normal distribution. The concentrations or amounts reported for such peaks are most likely overestimated.

A **'Q'** flag is used to indicate the presence of QC ion instabilities caused by quantitative interferences. Affected analytes may be overestimated or underestimated as a result of this interference. A peak is flagged 'Q' only if it is affected by a QC ion deviation greater than 20% full scale as determined relative to the labeled standard against which it is quantitated. Total PCDF/PCDF quantitations will be flagged 'Q' if the interferences affect ten percent or more of the total PCDD/PCDF peak areas.

An **'RO'** flag is used to indicate that a labeled standard has an ion abundance ratio that is outside of the acceptable QC limits, most likely due to a coeluting interference. This may have caused the percent recovery of the standard to be overestimated. All quantitations versus this standard, therefore, may be underestimated.

A 'U' flag is used to indicate that a specific (2,3,7,8-substituted) isomer cannot be resolved from a large, coeluting interferent GC peak. The specific isomer is reported as not detected as a valid concentration/amount cannot be determined. The calculated detection limit, therefore, should be considered an underestimated value.

A 'V' flag is used to indicate that, although the percent recovery of a labeled standard may be below a specific QC limit, the signal-to-noise ratio of the peak is greater than ten-to-one. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

By our interpretation, the analytical data in this project are valid based on the guidelines of EPA Method 8290 Rev. 0 (9/94). Any specific QC concerns or problems have been discussed in the QC Remarks section of this case narrative with emphasis on their effect on the data. Should Columbia Analytical Services have any questions or comments regarding this data package, please feel free to contact our Project Scientist, Amy Boehm, at 919/544-5729 ext. 268.

For Triangle Laboratories, Inc.,

Report Preparation

Craig Myrick

Craig Myrick
Report Preparation Chemist

Quality Control

William D. Hill

William D. Hill
Report Preparation Chemist

The total number of pages in the data package is : ~~139~~ 444
10/21/98

REVISED PAGE: 6
10/21/98

TRIANGLE LABS

CASE NARRATIVE

Analysis of Samples for the Presence of

Polychlorinated Dibenzo-*p*-Dioxins and Dibenzofurans by

High-Resolution Chromatography / High-Resolution Mass Spectrometry

Method 8290 Rev. 0 (9/94)

Date:	November 13, 1997
Client ID:	Columbia Analytical Services
P.O. Number:	
TLI Project Number:	43820

This report should only be reproduced in full. Any partial reproduction of this report requires permission from Triangle Laboratories, Inc.

Triangle Laboratories, Inc.
801 Capitola Drive
Durham, NC 27713-4411
919-544-5729
P.O. Box 13485
Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

Overview

The sample and any associated QC samples were extracted and analyzed according to procedures described in EPA Method 8290 Rev. 0 (9/94). Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. Results reported relate only to the items tested.

Quality Control Samples

A laboratory method blank, identified as the TLI Blank, was prepared along with the sample.

Laboratory control spike (LCS) and laboratory control spike duplicate (LCSD) samples were extracted and analyzed along with the samples. A report summarizing the analyte recoveries and relative percent differences for these samples is included in the data package.

Quality Control Remarks

This release of this particular set of Columbia Analytical Services analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample receipt: One sludge sample was received from Columbia Analytical Services at 4 °C in good condition on October 30, 1997 and was stored in a refrigerator at 4 °C. Additional sample was received from Columbia Analytical Services at 4 °C in good condition on November 5, 1997 and was stored in a refrigerator at 4 °C.

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review: The additional sample was composited with the original sample. Then, another percent moisture determination was performed prior to extraction.

Other Comments: No analytes were detected in the method blank.

Average continuing calibration (Concal) response factors are used instead of average initial calibration (Ical) response factors for all analyte and labeled standard calculations in sample(s) with a beginning and ending calibration listed on the quantitation report. Average response factors are used when the ending Concal meets Method 8290 ending Concal requirements but not beginning Concal requirements. The average response factor is an average of the factors from the beginning and ending Concals.

Sample Calculations:

Analyte Concentration

The concentration or amount of any analyte is calculated using the following expression.

$$C_{(\sigma)} = \frac{A_\sigma * Q_\beta}{A_\beta * RRF_{(\sigma)} * W}$$

Where:

$C_{(\sigma)}$ is the concentration or amount of a given analyte,

A_σ is the integrated current for the characteristic ions of the analyte,

A_β is the integrated current of the characteristic ions of the corresponding internal standard,

Q_β represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Detection Limits

The detection limit reported for a target analyte that is not detected or presents an analyte response that is less than 2.5 times the background level is calculated by using the following expression. The area of the analyte is replaced by the noise level measured in a region of the chromatogram clear of genuine GC signals multiplied by an empirically determined factor. The detection limits represent the maximum possible concentration of a target analyte that could be present without being detected.

$$DL_{(\sigma)} = \frac{2 * 2.5 * (F * H) * Q_{\beta}}{A_{\beta} * RRF_{(\sigma)} * W}$$

Where:

$DL_{(\sigma)}$ is the estimated detection limit for a target analyte,

2.5 is the minimum response required for a GC signal,

F is an empirical number that approximates the area to height ratio for a GC signal. This number is 3.7 for both the DB-5 GC column and the DB-225 GC column,

H is the height of the noise

A_{β} is the integrated current of the characteristic ions of the corresponding internal standard,

Q_{β} represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Data Flags

In order to assist with data interpretation, data qualifier flags are used on the final reports. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A **'B'** flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag will be used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample. Under Triangle Laboratories guidelines, a laboratory blank is acceptable if the tetra- through hepta-CDD/CDF levels are all below the target detection limits (TDLS) or if the contamination levels are less than 5% of the levels detected in the associated field samples.

If these conditions are satisfied or if the blank is unable to be reextracted, the interpretation of the contamination levels relative to the samples should be as follows: 1) analyte quantitations should be considered valid if the level of blank contamination is less than five percent of the level detected in the field sample, 2) analyte quantitations should be considered estimated if the analyte level in the sample is five to twenty times the level of the analyte in the blank, or 3) analytes whose level in a sample is the same as or less than five times the level detected in the associated blank should be considered present likely due to laboratory contamination and not native to the sample.

An **'E'** flag is used to indicate that an PCDF peak has eluted at the same time as the associated diphenyl ether (DPE) and that the DPE peak intensity is ten percent or more of the PCDF peak intensity. Total PCDF values are flagged 'E' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are quantitated with EMPC values, regardless of the isotopic abundance ratio. These EMPC values are most likely overestimated due to the DPE contribution to the peak area.

An **'I'** flag is used to indicate labeled standards have been interfered with on the GC column by coeluting, interferent peaks. The interference may have caused the standard's area to be overestimated. All quantitations relative to this standard, therefore, may be underestimated.

A **'PR'** flag is used to indicate that a GC peak is poorly resolved. This resolution problem may be seen as two closely eluting peaks without a reasonable valley between the peak tops, overly broad peaks, or peaks whose shapes vary greatly from a normal distribution. The concentrations or amounts reported for such peaks are most likely overestimated.

A **'Q'** flag is used to indicate the presence of QC ion instabilities caused by quantitative interferences. Affected analytes may be overestimated or underestimated as a result of this interference. A peak is flagged 'Q' only if it is affected by a QC ion deviation greater than 20% full scale as determined relative to the labeled standard against which it is quantitated. Total PCDF/PCDF quantitations will be flagged 'Q' if the interferences affect ten percent or more of the total PCDD/PCDF peak areas.

An **'RO'** flag is used to indicate that a labeled standard has an ion abundance ratio that is outside of the acceptable QC limits, most likely due to a coeluting interference. This may have caused the percent recovery of the standard to be overestimated. All quantitations versus this standard, therefore, may be underestimated.

A **'U'** flag is used to indicate that a specific (2,3,7,8-substituted) isomer cannot be resolved from a large, coeluting interferent GC peak. The specific isomer is reported as not detected as a valid concentration/amount cannot be determined. The calculated detection limit, therefore, should be considered an underestimated value.

A **'V'** flag is used to indicate that, although the percent recovery of a labeled standard may be below a specific QC limit, the signal-to-noise ratio of the peak is greater than ten-to-one. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

By our interpretation, the analytical data in this project are valid based on the guidelines of EPA Method 8290 Rev. 0 (9/94). Any specific QC concerns or problems have been discussed in the QC Remarks section of this case narrative with emphasis on their effect on the data. Should Columbia Analytical Services have any questions or comments regarding this data package, please feel free to contact our Project Scientist, Amy Boehm, at 919/544-5729 ext. 268.

For Triangle Laboratories, Inc.,

Report Preparation

Craig Myrick

Craig Myrick
Report Preparation Chemist

Quality Control

William D. Hill
Report Preparation Chemist

The total number of pages in the data package is : 139 444
10/2/98

REVISED PAGE: 6
10/2/98

Columbia Analytical Services inc.

COPY

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

6925 Canoga Avenue • Canoga Park, CA 91303 • (818) 587-5550 • Fax (818) 587-5555

DATE _____ PAGE 1 OF 1

PROJECT NAME Rocketdyne # ~~D~~ 313150002

PROJECT MANAGER LEO RAAB

COMPANY/ADDRESS COLUMBIA ANALYTICAL

PHONE (818) 587 5550

SAMPLERS SIGNATURE _____

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	TPH Gas/BTEX 8015/8020/602	TPH/8015 Modified Diesel ☐ FC ☐ Gasoline ☐	BTEX 602/8020	Total Petroleum Hydrocarbons EPA 418.1	Halogenated Volatiles 601/8010	Volatile Organics GC/MS 624/8240/8260	Base Neutral Acid Organic GC/MS 625/8270	CAM Metals 6010/7000	DIOXINS							SDG ~~REMARKS~~
RF 715	10/28	0955		SL406E	1									X							L9703679

RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]
Printed Name: A. BRAGASIN	Printed Name: Bill Hurst
Firm: CAS	Firm: [signature]
Date/Time: 10/29/97 1500	Date/Time: 10/30/97

TURNAROUND REQUIREMENTS

___ 24 hr ___ 48 hr. ___ 5 day

___ Standard

___ Other (Specify)

___ Provide Verbal Preliminary Results 11/7

Requested Report Date ~~11/7~~ as

REPORT REQUIREMENTS

___ I. Routine Report

___ II Report (includes DUP.MS. MSD, as required, may be charged as samples)

X III Data Validation Report (includes All Raw Data)

___ RWQCB

INVOICE INFORMATION:

P.O.# _____

Bill To _____

SAMPLE RECEIPT:

Shipping VIA: _____

Shipping #: _____

Condition: _____

Lab No: _____

RELINQUISHED BY:	RECEIVED BY:
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

SPECIAL INSTRUCTIONS/COMMENTS:

PLEASE REFERENCE SDG ON REPORT

Columbia Analytical Services inc.

Bd 11/05/97

COPY

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

6925 Canoga Avenue • Canoga Park, CA 91303 • (818) 587-5550 • Fax (818) 587-5555

DATE _____ PAGE 1 OF 10

PROJECT NAME Rocketdyne # 31315 0002

PROJECT MANAGER LEO RAAB

COMPANY/ADDRESS COLUMBIA ANALYTICAL

PHONE _____

SAMPLERS SIGNATURE _____

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	TPH Gas/BTEX 8015/8020/602	TPH/8015 Modified Diesel ⌉ FC ⌉ Gasoline ⌉	BTEX 602/8020	Total Petroleum Hydrocarbons EPA 418.1	Halogenated Volatiles 601/8010	Volatile Organics GC/MS 624/8240/8260	Base Neutral Acid Organic GC/MS 625/8270	CAM Metals 6010/7000	DIOXINS *							SDG ~~REMARKS~~
RF 715	10/28/97	0955		SLUDGE	1																L9703679-3

RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]
Printed Name: A. BRAGASIN	Printed Name: Bill Hurst
Firm: CAS	Firm: TVI
Date/Time: 11/4/97 1500	Date/Time: 11/05/97 10:00

TURNAROUND REQUIREMENTS

___ 24 hr ___ 48 hr. ___ 5 day

___ Standard

___ Other (Specify)

___ Provide Verbal Preliminary Results

Requested Report Date _____

REPORT REQUIREMENTS

___ I. Routine Report

___ II. Report (includes DUP.MS. MSD, as required, may be charged as samples)

X III. Data Validation Report (includes All Raw Data)

___ RWQCB

INVOICE INFORMATION:

P.O.# _____

Bill To _____

SAMPLE RECEIPT:

Shipping VIA: _____

Shipping #. _____

Condition: _____

Lab No: _____

RELINQUISHED BY:	RECEIVED BY:
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

SPECIAL INSTRUCTIONS/COMMENTS:

ADDITIONAL SAMPLES AS REQUIRED/REQUESTED

By Amy Boehm.

ORIGINAL JOB SUBMITTED 10/29 to be received 10/30

Columbia Analytical Services INC.

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

6925 Canoga Avenue • Canoga Park, CA 91303 • (818) 587-5550 • Fax (818) 587-5555

DATE _____ PAGE 1 OF 1 14

PROJECT NAME Rocketdyne # 31315000 2

PROJECT MANAGER LEO RAAB

COMPANY/ADDRESS COLUMBIA ANALYTICAL

PHONE _____

SAMPLERS SIGNATURE _____

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	TPH Gas/BTEX 8015/8020/602	TPH/8015 Modified Diesel ⊐ FC ⊐ Gasoline ⊐	BTEX 602/8020	Total Petroleum Hydrocarbons EPA 418.1	Halogenated Volatiles 601/8010	Volatile Organics GC/MS 624/8240/8260	Base Neutral Acid Organic GC/MS 625/8270	CAM Metals 6010/7000	8290 DIOXINS							SDG ~~REMARKS~~
RF 757	11/3	0930		Soil	1									X							L9703734

RELINQUISHED BY:	RECEIVED BY:
Signature: Cristobal Bragasin	Signature: Bill Hurst
Printed Name: A. BRAGASIN	Printed Name: Bill Hurst
Firm: CAS	Firm: TG
Date/Time: 11/4/97 1500	Date/Time: 11/05/97/1000

TURNAROUND REQUIREMENTS

___ 24 hr ___ 48 hr. ___ 5 day

___ Standard

___ Other (Specify)

___ Provide Verbal Preliminary Results

Requested Report Date 11/11

REPORT REQUIREMENTS

___ I. Routine Report

___ II. Report (includes DUP.MS MSD, as required, may be charged as samples)

X III. Data Validation Report (includes All Raw Data)

___ RWQCB

INVOICE INFORMATION:

P.O.# _____

Bill To _____

SAMPLE RECEIPT:

Shipping VIA: _____

Shipping #: _____

Condition: _____

Lab No: _____

RELINQUISHED BY:	RECEIVED BY:
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

SPECIAL INSTRUCTIONS/COMMENTS:

* Report in Dry Weight

Please reference SDG #

TRIANGLE LABS

CASE NARRATIVE

Analysis of Samples for the Presence of

Polychlorinated Dibenzo-*p*-Dioxins by

High-Resolution Chromatography / High-Resolution Mass Spectrometry

Method 8290 Rev. 0 (9/94)

Date:	December 23, 1997
Client ID:	Columbia Analytical Services
P.O. Number:	
TLI Project Number:	44280D

This report should only be reproduced in full. Any partial reproduction of this report requires permission from Triangle Laboratories, Inc.

Rev. 11/19/97

Triangle Laboratories, Inc.
801 Capitola Drive
Durham, NC 27713-4411
919-544-5729
P.O. Box 13485
Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

Overview

The sample and associated QC samples were extracted and analyzed according to procedures described in EPA Method 8290 Rev. 0 (9/94). Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. This report contains results from only the 8290 dioxin/furan analysis of the soil sample RF715.

Quality Control Samples

A laboratory method blank, identified as the TLI Blank, was prepared along with the sample.

A laboratory control spike (LCS) and laboratory control spike duplicate (LCSD) were prepared along with the samples in this project. A report summarizing the results from these QC samples is included in the data package.

Quality Control Remarks

This release of this particular set of Columbia Analytical Services analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample receipt: Seven soil samples were received from Columbia Analytical Services at 4 °C in good condition on December 11, 1997 and stored in a refrigerator at 4 °C. Only results for sample RF715 are included in this data package.

Sample Preparation Laboratory: A new aliquot of sample RF715 was submitted for re-extraction using a one gram sample aliquot because 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8,-HpCDF, OCDF, and OCDD analytes in sample were above the calibration range in the initial aliquot. Only 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8,9-HpCDF, OCDF, OCDD, total HpCDF, and total HpCDD are reported for sample RF715.

Mass Spectrometry: None

Data Review: The re-extracted sample results of sample RF715 do not match the results of the original analysis with RPDs of 154% for 1,2,3,4,6,7,8-HpCDD, 157% for 1,2,3,4,6,7,8-HpCDF, 151% for OCDF, and 169% for OCDD. This is probably due to the heterogeneous nature of soil samples.

Other Comments: No 2,3,7,8-substituted target analytes were detected in the TLI Blank above the target detection limit (TDL).

The analytical data presented in this report are consistent with the guidelines of EPA Method 8290 Rev. 0 (9/94). Any exceptions have been discussed in the QC Remarks section of this case narrative with emphasis on their effect on the data. Should Columbia Analytical Services have any questions or comments regarding this data package, please feel free to contact our Project Scientist, Amy Boehm, at 919/544-5729 ext. 268.

For Triangle Laboratories, Inc.,

Report Preparation

William D. Hill
Report Preparation Chemist

Quality Control

Amy L. Boehm
Report Preparation Chemist

The total number of pages in the data package is : 428 .

REVISED PAGE: 3

Columbia Analytical Services inc

COPY

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FOR

6925 Canoga Avenue • Canoga Park, CA 91303 • (818) 587-5550 • Fax (818) 587-5555

DATE

PAGE 1 OF 1

PROJECT NAME [illegible] #

PROJECT MANAGER LEO RAAB

COMPANY/ADDRESS COLUMBIA ANALYTICAL

PHONE

SAMPLERS SIGNATURE

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	TPH Gas/BTEX 8015/8020/602	TPH/8015 Modified Diesel ⌉ FC ⌉ Gasoline ⌉	BTEX 602/8020	Total Petroleum Hydrocarbons EPA 418.1	Halogenated Volatiles 601/8010	Volatile Organics GC/MS 624/8240/8260	Base Neutral Acid Organic GC/MS 625/8270	CAM Metals 6010/7000	DIOXIN *							SDG # ~~REMARKS~~
RF 631				Soil	1									Y							L970350[illegible]
RF 661	10/17				1									X							L970354[illegible]
RF 663	10/20				1									X							L970357[illegible]
RF 677	10/22				1									Y							L9703578
RF ~~6~~ 715	10/28				1									Y							L9703679
RF 683	10/23				1									Y							7970360[illegible]
RF 686	10/23				1									Y							7970360[illegible]

RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature:
Printed Name: A. BRAGASIN	Printed Name:
Firm: CAS	Firm:
Date/Time: 12/1/97 1500	Date/Time:

TURNAROUND REQUIREMENTS

- 24 hr 48 hr 5 day
- Standard
- Other (Specify)
- Provide Verbal Preliminary Results

Requested Report Date

REPORT REQUIREMENTS

- I. Routine Report
- II. Report (includes DUP, MS, MSD, as required, may be charged as samples)
- III. Data Validation Report (includes All Raw Data)
- RWQCB

INVOICE INFORMATION:

P.O #

Bill To

SAMPLE RECEIPT:

Shipping VIA:

Shipping #:

Condition:

Lab No:

RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature: [signature]
Printed Name:	Printed Name: Bill Hurst
Firm:	Firm: [signature]
Date/Time:	Date/Time: 12-1-97 1100

SPECIAL INSTRUCTIONS/COMMENTS:

* FOR DILUTION RERUNS

PLEASE REFERENCE SDG #S ON REPORT

Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

IPD2761

ADDITIONAL ANALYSIS REQUEST FORM

Today's Date: 4/28 Del Mar Analytical Project Manager: MC

Request via: X telephone ____ chain of custody form ____ fax transmission X E-mail ____ other

Client: Tetra Tech San Diego Contact: Lisa Tucker

Project: SSFL Group 6 / Data Gap

Date Sampled: see below Date Received: see below

Status: ____ in progress ____ completed ____ received today ____ received yesterday X on hold ____ other

Sampled	Received	SAMPLE NUMBER	SAMPLE DESCRIPTION	ANALYSIS REQUESTED	SPECIAL REQUIREMENTS
4/10	4/10	IPD1011-03*	MJ725**	1613 Dioxin	2 week TAT, due 5/15
		-04*	MJ726**		
		-05*	MJ727**		
		-09*	MJ731		
		-10*	MJ732**		
		-11*	MJ733		
4/11	4/11	IPD1108-08	MJ746		
		-09	MJ747		
		-10	MJ748		
		-12	MJ750		
		-13	MJ751		ON HOLD

- Addon, new work order

** 4/28/06 add-on changed to only MJ725, MJ726, MJ727, MJ732 MC

TURNAROUND STATUS: ____Same Day ____24hr ____48hr ____3days ____5days ____Standard ____No Rush Charge

-- Sub to Alta for Salt delivery

* Split sample and send sub-sample to Alta

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax. 858-751-1201

Date: 04/14/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ775	MJ775	NCBS18S01	4/10/06	Dioxin analysis. 14 days TAT.	Add PCB's analysis. Standard TAT. Same analysis
MJ775	MJ724	NCBS19S01	4/10/06	Dioxin analysis. 14 days TAT.	Add PCB's analysis. Standard TAT. Same analysis.
MJ775	MJ734	NCSS06S01	4/10/06	Hold PCB's analysis. Analyze Pb only.	Turn on PCB's analysis. Standard TAT. Same analysis.

The reason for these changes:

Incorrectly marked on COC form	
Lack of sample volume	
MWH office personnel require this change	X
Other: Containers mislabeled	

Thank you.

MW 17

Group 6 Data Only Stapled

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

Chain of Custody

Control Number: COC MJ-123 M-1775

Date 4/10/06 Page 1 of 2

Project Manager:	Dixie Hardbrick
Project Name:	Rocketdyne
Project Number:	313150082
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No:	
QC Level:	TAT: 2 weeks, for Dioxins

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4, pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						

Sample Data							Matrix																									
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8021 VOC	8015DG TPH	8270SIM SVOC	8270M SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDNANCE	7.1/MYLRT METALS/T	7196 HEX CHROME	3442 FLUORIDE	300 ANIONS	9045/9040 pH	9056/9060 PO4	IC HYDRAZ	LEAD Pb		Sampling Method	Extra Volume 8260/8260	HOLD	Total # of Bottles
MJ 723	NCBS19 S01	0.5	4/10/06	1155			X							X								X		X				X	1
MJ 724	NCBS19 SD1	0.5		1200			X							X										X					1
MJ 725	NCBS20 S01	0.5		1205			X							X										X					1
MJ 726	NCBS21 S01	0.5		1210			X							X										X				X	1
MJ 727	NCBS19 S02	2.5		1215			X							X										X				X	1
MJ 728	NCSS07 S01	0'		1220			X															X							1
MJ 729	NCBS22 S01	0.5		1225			X							X										X					1
MJ 730	NCBS23 S01	0.5		1225			X							X										X					1
MJ 731	NCBS22 S02	2.5		1230			X							X										X				X	1
MJ 732	NCBS24 S01	0.5		1235			X							X										X				X	1
MJ 733	NCBS25 S01	0.5		1240			X							X										X				X	1
MJ 734	NCSS06 S01	0'	↓	1255			X															X		X				X	1

MJ 775
IB 04/12/06

Sampler's Signature:	Date	Time
Relinquished By:	Date	Time
Received By:	Date	Time
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use	
Lab Number:	MJ 734: Hold PCBs, analyze Pb
Do COC match samples: Y or N	
Broken container: Y or N	
Received within holding time: Y or N	
COC seal intact: Y or N	
Any other problems: Y or N	
If any YES, Ogden contacted: Y or N	
Date contacted: ___/___/___	
Temperature °C	

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

4-14-06 14:14 FROM:BOEING/SSFL 18184668730 TO:8587511201 PAGE:02

MWH

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

IPD1011

Group 6 Data Gap Stepcuts

Chain of Custody

#006

Control Number: COC MJ723

Date 4/10/06 Page 1 of 2

Project Manager:	Dixie Hambrick	Bill To:	Purchasing
Project Name:	Rocketdyne	Company:	Ogden Environmental
Project Number:	313150002	Address:	5510 Morehouse Drive, San Diego, CA 92121
Deliver results to the address above or as stated in contract			

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: Courier

Comment:

Cooler No:

QC Level:

TAT: 2 weeks for Dioxins

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4, pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	~~8290~~ 1613 DIOXIN mC 4/6/06	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ	Lead Pb		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ723	NCBS18S01	0.5	4/10/06	1155			X							X															1
MJ724	NCBS19S01	0.5		1200			X							X															1
MJ725	NCBS20S01	0.5		1205			X							X														X	1
MJ726	NCBS21S01	0.5		1210			X							X														X	1
MJ727	NCBS19S02	2.5		1215			X							X														X	1
MJ728	NCSS07S01	0'		1220			X															X							1
MJ729	NCBS22S01	0.5		1225			X							X										X					1
MJ730	NCBS23S01	0.5		1225			X							X										X					1
MJ731	NCBS22S02	2.5		1230			X							X										X				X	1
MJ732	NCBS24S01	0.5		1235			X							X										X				X	1
MJ733	NCBS25S01	0.5		1240			X							X										X				X	1
MJ734	NCSS06S01	0'		1255			X															X		X				X	1

	Date	Time
Samplers Signature: [signature]	4/10/06	1145
Relinquished By: [signature]	4/10/06	1545
Received By: [signature]	4/10/06	1545
Relinquished By: [signature]	4/10/06	1810
Received By (LAB): [signature]	4/10/06	1810

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 6°C

MJ734: Hold PCBs, analyze Pb

VB 4/11 1355

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

MWH

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

Group 6 Data Gap Stepouts

Chain of Custody

Control Number: COC MJ 735

Date 4 / 10 / 06 Page 2 of 2

Project Manager:	Dixie Hambrick	Bill To:	Purchasing	Sample Disposal Instructions:	Laboratory Disposal
Project Name:	Rocketdyne	Company:	Ogden Environmental	Shipment Method:	Courier
Project Number:	313150002	Address:	5510 Morehouse Drive, San Diego, CA 92121	Comment:	
Deliver results to the address above or as stated in contract					

Cooler No:

QC Level:

TAT: Dioxins = 2 weeks

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4,pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ735	OCBS10 S01	0.5	4/10/06	1320			X							X													1
MJ736	OCBS24 S01	0.5	↓	1325			X							X													1
MJ737	SRBS60 S02	2	↓	1400			X							X												X	1
MJ738	SRBS60 S02	2	↓	1400			X															X				X	1

J.B. 4/10/06

	Date	Time
Samplers Signature: [signature]	4/10/06	1315
Relinquished By: [signature]	4/10/06	1545
Received By: [signature]	4/10/06	1545
Relinquished By: [signature]	4/10/06	1810
Received By (LAB): [signature]	4/10/06	1810

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 60 C

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date 04/12/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change(s) and Method (s) Now Requested
MJ723	MJ723	NCBS18S01	4/10/06	Dioxin by method 8290. 14 days TAT.	New COC No. = MJ775 New EPA_ID = MJ775 Same analysis.

The reason for these changes

Incorrectly marked on COC form ____
Lack of sample volume ____
MWH office personnel require this change X
Other: Containers mislabeled ____

Thank you

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date: 05/01/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ775	MJ725	NCBS20S01	4/10/06	Hold Dioxin analysis.	Turn on Dioxin analysis (Method 1613B). 14 day rush TAT.
MJ775	MJ726	NCBS21S01	4/10/06	Hold Dioxin analysis.	Turn on Dioxin analysis (Method 1613B). 14 day rush TAT.
MJ775	MJ727	NCBS19S02	4/10/06	Hold Dioxin analysis.	Turn on Dioxin analysis (Method 1613B). 14 day rush TAT.
MJ775	MJ732	NCBS24S01	4/10/06	Hold Dioxin and Lead analyses.	Turn on Dioxin analysis (Method 1613B). 14 day rush TAT.

The reason for these changes:

Incorrectly marked on COC form _____
Lack of sample volume _____
MWH office personnel require this change X
Other: Containers mislabeled _____

Thank you

MWH

Group 6 Data Gap Stepout

IPD 1011

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

Chain of Custody

Control Number: COC ~~MJ723~~ MJ775 AB 04/12/06

Date 4/10/06 Page 1 of 2

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No:	
QC Level:	TAT: 2 weeks for Dioxins

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4, pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Matrix: Soil	Matrix: Water	Matrix: Product	8031 VOC	8015/OG TPH	8270SIM SVOC	8270R SVOC	8250 DIOXIN	ASTM D19 FORMALDEHYDE	8530 ORDINANCE	1LM08.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	8045/9040 pH	8082 PCBs	IC HYDRAZ	Lead Pb		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
J 775 ~~MJ723~~	NCBS18S01	0.5	4/10/06	1155			X							X								X							1
B 04/12/06 MJ724	NCBS19S01	0.5		1200			X							X								X		AB 04/14/06					1
MJ725	NCBS20S01	0.5		1205			X							X														X	1
MJ726	NCBS21S01	0.5		1210			X							X										AB 05/01/06				X	1
MJ727	NCBS19S02	2.5		1215			X							X														X	1
MJ728	NCSS07S01	0'		1220			X															X							1
MJ729	NCBS22S01	0.5		1225			X							X										X					1
MJ730	NCBS23S01	0.5		1225			X							X										X					1
MJ731	NCBS22S02	2.5		1230			X							X										X				X	1
MJ732	NCBS24S01	0.5		1235			X							X	AB 05/01/06									X				X	1
MJ733	NCBS25S01	0.5		1240			X							X										X				X	1
MJ734	NCSS06S01	0'		1255			X															X		X			AB 04/14/06	X	1

Samplers Signature: [signature]	Date	Time
Relinquished By:	Date	Time
Received By:	Date	Time
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C

MJ734: Hold PCBs, analyze Pb

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

ALTA

May 10, 2006

Alta Project I.D.: 27639

Ms. Michele Chamberlin
Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the five soil samples received at Alta Analytical Laboratory on April 29, 2006 under your Project Name "IPD2761". These samples were extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maier
Director of HRMS Services

Alta Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. This report should not be reproduced except in full without the written approval of ALTA

Alta Analytical Laboratory Inc.
1104 Windfield Way
El Dorado Hills, CA 95762
FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: **4/29/2006**

Alta Lab. ID	Client Sample ID
27639-001	IPD2761-01
27639-002	IPD2761-02
27639-003	IPD2761-03
27639-004	IPD2761-05
27639-005	IPB1429-24

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated Detection Limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that corresponds to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

Del Mar Analytical

17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPD2761

SENDING LABORATORY:
Del Mar Analytical - Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:
Alta Analytical - SUB
1104 Windfield Way
El Dorado Hills, CA 95762
Phone :(916) 933-1640
Fax: (916) 673-0106

27639
0.2°C

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => Due Date: 2 Weeks **Initials:**

Analysis	Expiration	Comments
Sample ID: IPD2761-01 Soil	**Sampled: 04/10/06 12:05**	**add on IPD1011-03, add in 4/28/06**
1613-Dioxin-HR-Alta	04/17/06 12:05	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPD2761-01B)		
Sample ID: IPD2761-02 Soil	**Sampled: 04/10/06 12:10**	**add on IPD1011-04, add in 4/28/06**
1613-Dioxin-HR-Alta	04/17/06 12:10	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPD2761-02B)		
Sample ID: IPD2761-03 Soil	**Sampled: 04/10/06 12:15**	**add on IPD1011-05, add in 4/28/06**
1613-Dioxin-HR-Alta	04/17/06 12:15	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPD2761-03B)		
Sample ID: IPD2761-04 Soil	**Sampled: 04/10/06 12:30**	**add on IPD1011-09, add in 4/28/06**
1613-Dioxin-HR-Alta	04/17/06 12:30	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPD2761-04B)		
Sample ID: IPD2761-05 Soil	**Sampled: 04/10/06 12:35**	**add on IPD1011-10, add in 4/28/06**
1613-Dioxin-HR-Alta	04/17/06 12:35	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPD2761-05B)		
Sample ID: IPD2761-06 Soil	**Sampled: 04/10/06 12:40**	**add on IPD1011-11, add in 4/28/06**
1613-Dioxin-HR-Alta	04/17/06 12:40	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPD2761-06B)		

Released By	Date	Time	Received By	Date	Time
[signature]	4/28/06		[signature]	04/29/06	0900
Released By	Date	Time	Received By	Date	Time

Del Mar Analytical

17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPD2761

SENDING LABORATORY:
Del Mar Analytical - Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:
Alta Analytical - SUB
1104 Windfield Way
El Dorado Hills, CA 95762
Phone :(916) 933-1640
Fax: (916) 673-0106

27639
0.2°C

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => Due Date:_____ **Initials:**_____

Analysis	Expiration	Comments
Sample ID: IPD2761-07 Soil	**Sampled: 04/11/06 09:35**	**add on IPD1108-08, add in 4/28/06**
1613-Dioxin-HR-Alta	04/18/06 09:35	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 8 oz Jar (IPD2761-07A)		
Sample ID: IPD2761-08 Soil	**Sampled: 04/11/06 09:40**	**add on IPD1108-09, add in 4/28/06**
1613-Dioxin-HR-Alta	04/18/06 09:40	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 8 oz Jar (IPD2761-08A)		
Sample ID: IPD2761-09 Soil	**Sampled: 04/11/06 09:45**	**add on IPD1108-10, add in 4/28/06**
1613-Dioxin-HR-Alta	04/18/06 09:45	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 8 oz Jar (IPD2761-09A)		
Sample ID: IPD2761-10 Soil	**Sampled: 04/11/06 09:55**	**add on IPD1108-12, add in 4/28/06** *
1613-Dioxin-HR-Alta	04/18/06 09:55	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 8 oz Jar (IPD2761-10A)		
Sample ID: IPD2761-11 Soil	**Sampled: 04/11/06 10:20**	**add on IPD1108-12, add in 4/28/06**
1613-Dioxin-HR-Alta	04/18/06 10:20	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 8 oz Jar (IPD2761-11A)		

SAMPLE INTEGRITY:

All containers intact: ☐ Yes ☐ No Sample labels/COC agree: ☐ Yes ☐ No Samples Received On Ice:: ☐ Yes ☐ No
Custody Seals Present: ☐ Yes ☐ No Samples Preserved Properly: ☐ Yes ☐ No Samples Received at (temp): _____

V. Banes 4/28/06 *

Released By Date Time Received By Date Time

Released By Date Time Received By Date Time

Project 27639 Samples on this page of COC were not received. 5/2/06

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27639

Samples Arrival:	Date/Time: 4/29/06 0900	Initials: MLT	Location: WR-2 Shelf/Rack:
Logged In:	Date/Time: 5/2/06 0927	Initials: BSB	Location: WR-2 Shelf/Rack: D-5

Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blue Ice		Dry Ice	None	
Temp °C 0.2	Time: 1030			Thermometer ID: DT-20		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
(Airbill) Trk # 7927 2770 4567			
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?			COC	Sample Container	(None)
Shipping Container	Alta	(Client)	Retain	(Return)	Dispose

Comments:

Samples received in clear glass jars.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

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

Project: SSFL Group 6
Data Gap

Sampled: 04/11/06
Received: 04/11/06
Issued: 04/27/06 16:41

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IPD1108-01	MJ739	Soil
IPD1108-02	MJ740	Soil
IPD1108-03	MJ741	Soil
IPD1108-04	MJ742	Soil
IPD1108-05	MJ743	Soil
IPD1108-06	MJ744	Soil
IPD1108-07	MJ745	Soil
IPD1108-27	MJ765	Soil
IPD1108-29	MJ767	Soil
IPD1108-30	MJ768	Soil
IPD1108-31	MJ769	Soil
IPD1108-32	MJ770	Soil
IPD1108-33	MJ771	Soil
IPD1108-34	MJ772	Soil
IPD1108-35	MJ773	Soil
IPD1108-36	MJ774	Soil

Reviewed By:



Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPD1108

Sampled: 04/11/06
Received: 04/11/06

DATA QUALIFIERS AND DEFINITIONS

J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M-HA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
R-10	The RPD between the primary and confirmatory analysis exceeded 40%. Per method 8000B, the lower value was reported due to apparent chromatographic problems.
R-3	The RPD exceeded the method control limit due to sample matrix effects.
RL-1	Reporting limit raised due to sample matrix effects.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPD1108

Sampled: 04/11/06
Received: 04/11/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
EPA 160.3 MOD	Solid	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 6020	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

MWH

Del Mar Analytical #228

SSFL Group 6 Data Gap Stepouts

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

Chain of Custody

IPD1108

Control Number: COC MJ 739

Date 4/11/06 Page 1 of 3

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No:

QC Level:

TAT: Normal

Preservatives: None

All 8021

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product		8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	~~11M02JRT~~ 6010/7000 METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ	Silver		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
											HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4,pH<2 4°C	4°C	HNO3 pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						
MJ739	OCBS65 S01	2	04/11/06	0750			X					X						X					X				HA			~~2~~ 3
MJ740	NCBS26 S01	0.5		0755			X																		X					1
MJ741	NCBS27 S01	0.5		0800			X																		X				X	1
MJ742	NCBS28 S01	0.5		0805			X																		X				X	1
MJ743	NCBS29 S01	0.5		0810			X																		X					1
MJ744	OCBS66 S01	0.5		0930			X											X					X							2
MJ745	OCBS68 S01	0.5		0930			X											X					X							2
MJ746	OCBS66 S02	3		0935			X											X					X						X	2
MJ747	OCBS68 S02	3		0940			X											X					X						X	2
MJ748	OCBS67 S01	0.5		0945			X											X					X						X	2
MJ749	OCBS66 S03	6		0950			X											X					X						X	2
MJ750	OCBS69 S01	0.5		0955			X											X					X						X	2

	Date	Time
Samplers Signature: [signature]	4/11/06	0750
Relinquished By: [signature]	4/11/06	1722
Received By: [signature]	4/11/06	1722
Relinquished By: [signature]	4/11/06	1945
Received By (LAB): [signature]	4-11-06	1945

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 3°C

Run MJ741 + 742

NAM 4-14@0930

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

MWH

Del Mar

SSFL Group 6 Data Gap Stepa...

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

Chain of Custody

MJ751

Control Number: COC

Date 4 / 11 / 06 Page 2 of 3

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No:	
QC Level:	TAT: Normal

Preservatives: None

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product		8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	~~1LM02.IRT~~ 6.016/7000 METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ			Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
											HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4,pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						
MJ751	OCBS68 S03	6	4/11/06	1020			X											X					X						X	2
MJ752	OCBS70 S01	0.5		1030																			X						X	1
MJ753	OCBS70 S02	3		1030																			X						X	1
MJ754	OCBS71 S01	0.5		1040																			X						X	1
MJ755	OCBS71 S02	3		1040																			X						X	1
MJ756	OCBS72 S01	0.5		1050																			X						X	1
MJ757	OCBS72 S02	3		1050																			X						X	1
MJ758	OCBS38 S01	0.5		1045																			X						X	1
MJ759	OCBS73 S01	4.5		1135																			X						X	1
MJ760	OCBS73 S02	7.5		1140																			X						X	1
MJ761	OCBS74 S01	4.5		1150																			X						X	1
MJ762	OCBS74 S02	8		1210																			X						X	1

	Date	Time
Samplers Signature: [signature]	4/11/06	1015
Relinquished By: [signature]	4/11/06	1722
Received By: [signature]	4/11/06	1722
Relinquished By: [signature]	4/11/06	1945
Received By (LAB): [signature]	4-11-06	1945

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 3°C

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

MWH Del Mar Analytical SSFL Group 6 Data Gap Stepouts

MJ 763

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

Chain of Custody

Control Number: COC
Date 4/11/06 Page 3 of 3

Project Manager:	Dixie Hambrick	Bill To:	Purchasing	Sample Disposal Instructions: Laboratory Disposal	
Project Name:	Rocketdyne	Company:	Ogden Environmental	Shipment Method:	Courier
Project Number:	313150002	Address:	5510 Morehouse Drive, San Diego, CA 92121	Comment:	
Deliver results to the address above or as stated in contract					

Cooler No:

QC Level:

TAT: Normal

Preservatives: None

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product		8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	~~ALM02.IRT~~ 6010/7000 METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ	Mercury		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
											HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H2SO4,pH<2 4°C	4°C	HNO3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						
MJ763	OCBS75S01	4.5	4/11/06	1145			X																X						X	1
MJ764	OCBS75S02	7.5		1205			X																X						X	1
MJ765	SR~~OC~~BS74S01	0.5		1335			X																X							1
MJ766	SRBS75S01			1340			X																X						X	1
MJ767	SRBS76S01			1345			X																X							1
MJ768	SRBS77S01			1355			X																X							1
MJ769	SRBS78S01			1400			X																X							1
MJ770	SRBS81S01			1415			X																		X					1
MJ771	SRBS82S01			1420			X																		X					1
MJ772	SRBS83S01			1425			X																		X					1
MJ773	SRBS84S01			1430			X																		X					1
MJ774	SRBS83D01			1430			X																		X					1

	Date	Time
Samplers Signature: [signature]	4/11/06	1140
Relinquished By: [signature]	4/11/06	1722
Received By: [signature]	4/11/06	1722
Relinquished By: [signature]	4/11/06	1945
Received By (LAB): [signature]	4-11-06	1945

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: __/__/__
Temperature °C 3°C

MJ767 and 769 are contained unit samples.

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

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

Project: SSFL Group 6
Data Gap

Sampled: 04/10/06
Received: 04/10/06
Issued: 04/25/06 13:50

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 5 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID	CLIENT ID	MATRIX
IPD1011-01	MJ775	Soil
IPD1011-02	MJ724	Soil
IPD1011-06	MJ728	Soil
IPD1011-07	MJ729	Soil
IPD1011-08	MJ730	Soil
IPD1011-12	MJ734	Soil
IPD1011-13	MJ735	Soil
IPD1011-14	MJ736	Soil

Reviewed By:



Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6 Data Gap
Report Number: IPD1011

Sampled: 04/10/06
Received: 04/10/06

DATA QUALIFIERS AND DEFINITIONS

C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
RL-1	Reporting limit raised due to sample matrix effects.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPD1011

Sampled: 04/10/06
Received: 04/10/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Soil		
EDD + Level 4	Soil		
EPA 160.3 MOD	Solid	N/A	N/A
EPA 160.3 MOD	Water		
EPA 3545/8082	Soil	X	X
EPA 6020	Soil	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Alta Analytical *NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413*

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IPD1011-01, IPD1011-02, IPD1011-07, IPD1011-08, IPD1011-13, IPD1011-14

Analysis Performed: Level 4 + EDD
Samples: IPD1011-01

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date: 04/14/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ775	MJ775	NCBS18S01	4/10/06	Dioxin analysis. 14 days TAT.	Add PCB's analysis. Standard TAT. Same analysis
MJ775	MJ724	NCBS19S01	4/10/06	Dioxin analysis. 14 days TAT.	Add PCB's analysis. Standard TAT. Same analysis.
MJ775	MJ734	NCSS06S01	4/10/06	Hold PCB's analysis. Analyze Pb only.	Turn on PCB's analysis. Standard TAT. Same analysis.

The reason for these changes:

Incorrectly marked on COC form _____
Lack of sample volume _____
MWH office personnel require this change X
Other: Containers mislabeled _____

Thank you

MWH

Group 6 Data Gap Stepoo B

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

Chain of Custody

Control Number: COC ~~MJ723~~ MJ775 AB 04/12/06

Date 4/10/06 Page 1 of 2

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No:

QC Level:

TAT: 2 weeks for Dioxins

Preservatives: HCL, pH<2 4°C; HCL, pH<2 4°C; 4°C; 4°C; 4°C; H2SO4, pH<2 4°C; 4°C; HNO3, pH<2 4°C; 4°C; 4°C; 4°C; 4°C; 4°C; 4°C

Sample Data

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LMOLIRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	8045/0040 pH	8082 PCBs	IC HYDRAZ	Lead Pb		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
~~MJ723~~	NCBS18S01	0.5	4/10/06	1155			X							X								X							1
MJ724	NCBS19S01	0.5		1200			X							X								X							1
MJ725	NCBS20S01	0.5		1205			X							X														X	1
MJ726	NCBS21S01	0.5		1210			X							X														X	1
MJ727	NCBS19S02	2.5		1215			X							X														X	1
MJ728	NCSS07S01	0'		1220			X															X							1
MJ729	NCBS22S01	0.5		1225			X							X										X					1
MJ730	NCBS23S01	0.5		1225			X							X										X					1
MJ731	NCBS22S02	2.5		1230			X							X										X				X	1
MJ732	NCBS24S01	0.5		1235			X							X										X				X	1
MJ733	NCBS25S01	0.5		1240			X							X										X				X	1
MJ734	NCSS06S01	0'		1255			X															X		X				X	1

MJ 775 AB 04/12/06

AB 04/14/06

AB 04/14/06

Samplers Signature: [signature]	Date	Time
Relinquished By:	Date	Time
Received By:	Date	Time
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Lab Number:

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C

MJ 734: Hold PCBs, analyze Pb

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

MWH OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

IPD1011

Group 6 Data Gap Step out 5

Chain of Custody

#006

Control Number: COC MJ723

Date 4/10/06 Page 1 of 2

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	Courier
Comment:	

Cooler No:	
QC Level:	TAT: 2 weeks, for Dioxins

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H_2SO_4, pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						

Sample Data							Matrix				8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	~~8290~~ 1613 DIOXIN mc 4/12/06	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ	Lead Pb		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product																					
MJ723	NCBS18 S01	0.5	4/10/06	1155			X								X															1
MJ724	NCBS19 S01	0.5		1200			X								X															1
MJ725	NCBS20 S01	0.5		1205			X								X														X	1
MJ726	NCBS21 S01	0.5		1210			X								X														X	1
MJ727	NCBS19 S02	2.5		1215			X								X														X	1
MJ728	NCSS07 S01	0'		1220			X																X							1
MJ729	NCBS22 S01	0.5		1225			X								X										X					1
MJ730	NCBS23 S01	0.5		1225			X								X										X					1
MJ731	NCBS22 S02	2.5		1230			X								X										X				X	1
MJ732	NCBS24 S01	0.5		1235			X								X										X				X	1
MJ733	NCBS25 S01	0.5		1240			X								X										X				X	1
MJ734	NCSS06 S01	0'		1255			X																X		X				X	1

Samplers Signature:	Date 4/10/06	Time 1145
Relinquished By:	Date 4/10/06	Time 1545
Received By:	Date 4/10/06	Time 1545
Relinquished By:	Date 4/10/06	Time 1810
Received By (LAB):	Date 4/10/06	Time 1810

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: Y or N

Broken container: Y or N

Received within holding time: Y or N

COC seal intact: Y or N

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: __/__/__

Temperature °C 6°C

MJ734: Hold PCBs, analyze Pb

VB 4/11 1355

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

Group 6 Data Gap Step outs

MWH OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(858) 458-9044

Chain of Custody

Control Number: COC MJ735

Date 4/10/06 Page 1 of 2

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: Courier
Comment:

Cooler No:	
QC Level:	TAT: Dioxins = 2 weeks

Preservatives	HCL, pH<2 4°C	HCL, pH<2 4°C	4°C	4°C	4°C	H_2SO_4, pH<2 4°C	4°C	HNO_3, pH<2 4°C	4°C	4°C	4°C	4°C	4°C	4°C						

Sample Data							Matrix																								
Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product		8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ			Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
MJ735	OCBS10 S01	0.5	4/10/06	1320			X								X														1
MJ736	OCBS24 S01	0.5		1325			X								X														1
MJ737	SRBS60 S02	2		1400			X								X													X	1
MJ738	SRBS60 S02	2		1400			X																X					X	1
						JB			4/10/06																				

Samplers Signature		Date 4/10/06	Time 1315
Relinquished By:		Date 4/10/06	Time 1545
Received By:		Date 4/10/06	Time 1545
Relinquished By:		Date 4/10/06	Time 1810
Received By (LAB):		Date 4/10/06	Time 1810

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number:

Do COC match samples: (Y) or N

Broken container: Y or (N)

Received within holding time: (Y) or N

COC seal intact: Y or N

Any other problems: Y or N

If any YES, Ogden contacted: Y or N

Date contacted: ___/___/___

Temperature °C 6.0

REV: 1

Figure A.5-2 Example Chain-of-Custody Form

F A X

MWH

9444 Farnham St., Suite 300
San Diego, California 92123

Tel: 858-751-1200
Fax: 858-751-1201

Date: 04/12/06

To: Michele Chamberlin/ Del Mar Analytical **Fax No:** 949-261-1228

From: Anca Brasoveanu

sign:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2 (including cover)**

Per Request:
Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	EPA Sample ID(s)	MWH Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MJ723	MJ723	NCBS18S01	4/10/06	Dioxin by method 8290. 14 days TAT.	New COC No. = MJ775 New EPA_ID = MJ775 Same analysis.

The reason for these changes:

Incorrectly marked on COC form _____
Lack of sample volume _____
MWH office personnel require this change X
Other: Containers mislabeled _____

Thank you

ALTA

April 19, 2006

Alta Project I.D.: 27582

Ms. Michele Chamberlin
Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the six soil samples received at Alta Analytical Laboratory on April 12, 2006 under your Project Name "IPD1011". These samples were extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

The results flagged with an asterisk were taken from a dilution of the extract.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maier
Director of HRMS Services

Alta Analytical Laboratory Inc.
1104 Windfield Way
El Dorado Hills, CA 95762
FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: **4/12/2006**

Alta Lab. ID	Client Sample ID
27582-001	IPD1011-01
27582-002	IPD1011-02
27582-003	IPD1011-07
27582-004	IPD1011-08
27582-005	IPD1011-13
27582-006	IPD1011-14

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated Detection Limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that corresponds to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

Del Mar Analytical

17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPD1011

SENDING LABORATORY:

Del Mar Analytical - Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:

Alta Analytical - SUB
1104 Windfield Way
El Dorado Hills, CA 95762
Phone :(916) 933-1640
Fax: (916) 673-0106

27582
0.2°C

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => Due Date:_____ Initials:_____

Analysis	Expiration	Comments
Sample ID: IPD1011-01 Soil	**Sampled: 04/10/06 11:55**	
1613-Dioxin-HR-Alta	04 17/06 11:55	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 8 oz Jar (IPD1011-01A)		
Sample ID: IPD1011-02 Soil	**Sampled: 04/10/06 12:00**	
1613-Dioxin-HR-Alta	04 17/06 12:00	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 8 oz Jar (IPD1011-02A)		
Sample ID: IPD1011-07 Soil	**Sampled: 04/10/06 12:25**	
1613-Dioxin-HR-Alta	04 17/06 12:25	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 2 oz jar (IPD1011-07B)		
Sample ID: IPD1011-08 Soil	**Sampled: 04/10/06 12:25**	
1613-Dioxin-HR-Alta	04 17/06 12:25	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 2 oz jar (IPD1011-08B)		
Sample ID: IPD1011-13 Soil	**Sampled: 04/10/06 13:20**	
1613-Dioxin-HR-Alta	04 17/06 13:20	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 8 oz Jar (IPD1011-13A)		
Sample ID: IPD1011-14 Soil	**Sampled: 04/10/06 13:25**	
1613-Dioxin-HR-Alta	04 17/06 13:25	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied: 8 oz Jar (IPD1011-14A)		

Released By	Date	Time	Received By	Date	Time
Vin Banh	4/11/06		Bettina Y. Benedict	4/12/06	0900

Del Mar Analytical

17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPD1011

YBJB, 4/12/06

27582
0.2°C

SAMPLE INTEGRITY:

All containers intact:	☐ Yes	☐ No	Sample labels/COC agree:	☐ Yes	☐ No	Samples Received On Ice::	☐ Yes	☐ No
Custody Seals Present:	☐ Yes	☐ No	Samples Preserved Properly:	☐ Yes	☐ No	Samples Received at (temp):		

Released By	Date	Time	Received By	Date	Time
Vn Bank	4/11/06		Bettina O. Benedict	4/12/06	0900

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27582

Samples Arrival	Date/Time: 4/12/06 0900	Initials: BSB	Location: WR-2 Shelf/Rack:
Logged In:	Date/Time: 4/12/06 1055	Initials: BSB	Location: WR-2 Shelf/Rack: D-3

Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blue Ice		Dry Ice	None	
Temp °C 0.2°C	Time: 0910			Thermometer ID: DT-20		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 7903 9045 6085	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?			
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?			COC	Sample Container	(None)
Shipping Container	Alta	(Client)	Retain	Return	(Dispose)

Comments:

All sample containers are clear jars

Del Mar Analytical

17461 Derian Ave. Suite 100, Irvine, CA 92 261-1 Fax: (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPD1011 #27582

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical - Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone :(916) 933-1640 Fax: (916) 673-0106

Work Order Comments: Level 4 QC. Access 7 EDD.

Standard TAT is requested unless specific due date is requested => * Due Date: 4/25/06 (2 weeks) Initials: MC

Analysis	Expiration	Comments
Sample ID: IPD1011-01 Soil	**Sampled: 04/10/06 11:55**	
1613-Dioxin-HR-Alta	04/17/06 11:55	Sub to Alta, 17 congeners, rpt in dry wt if soil
* Level 4 - EDD-OUT	05/08/06 11:55	Sub to Alta, EDD=Access 7
Containers Supplied:		
8 oz Jar (IPD1011-01A)		
Sample ID: IPD1011-02 Soil	**Sampled: 04/10/06 12:00**	
1613-Dioxin-HR-Alta	04/17/06 12:00	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
8 oz Jar (IPD1011-02A)		
Sample ID: IPD1011-07 Soil	**Sampled: 04/10/06 12:25**	
1613-Dioxin-HR-Alta	04/17/06 12:25	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPD1011-07B)		
Sample ID: IPD1011-08 Soil	**Sampled: 04/10/06 12:25**	
1613-Dioxin-HR-Alta	04/17/06 12:25	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
2 oz jar (IPD1011-08B)		
Sample ID: IPD1011-13 Soil	**Sampled: 04/10/06 13:20**	
1613-Dioxin-HR-Alta	04/17/06 13:20	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
8 oz Jar (IPD1011-13A)		
Sample ID: IPD1011-14 Soil	**Sampled: 04/10/06 13:25**	
1613-Dioxin-HR-Alta	04/17/06 13:25	Sub to Alta, 17 congeners, rpt in dry wt if soil
Containers Supplied:		
8 oz Jar (IPD1011-14A)		

* Revised MC 4/12/06

Released By	Date	Time	Received By	Date	Time
Released By	Date	Time	Received By	Date	Time

RJ503

CEIMIC
Corporation

"Analytical Chemistry for Environmental Management"

September 29, 2000



Ms. Dixie Hambrick
Ogden Environmental
5510 Moorehouse Drive
San Diego, CA 92121

Dear Ms. Hambrick:

Enclosed are the results for the Total Silver analyses performed in support of Ogden Environmental, Rocketdyne Project, Project No. 313150, SDG No. RJ503. The 1 aqueous and 12 soil samples were taken from the field on June 29, 2000 and received at Ceimic Corporation on July 3, 2000.

These samples are reported under Ceimic Project Number 200457, which can be referenced when inquiring about this project.

If you have any questions or concern regarding this data, please call me at the telephone number listed below.

Sincerely,

Neil Pothier, Ph.D
Laboratory Manager

NP/djj

Enclosures

CC: Elizabeth Wessling
Ogden Data Validation Section
550 S. Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Inorganic SDG Narrative

Client Case ID: Rocketdyne
Ceimic Project No.: 200457
SDG No.: RJ503A

The following sample was received at Ceimic Corporation on July 3, 2000:

RJ013

The above sample was digested and analyzed for total silver using SW846 methods 3050A/6010B in accordance with the Inorganic Statement of Work (SOW) ILM04.1.

Comments on Data Package:

QA/QC Samples:

Inorganic Ventures CICV-1, CICV-2, and CICV-3 were used for the ICV and LCSW samples for the ICP metals. CPI CAL-3, CAL-5 and CAL-8 were used for the CCV sample for the ICP metals. Environmental Resource Associates standard (lot# 243) was used for the LCSS sample. Inorganic Ventures CLPP-ICS-A and CLPP-ICS-B were used for the ICSA and ICSAB samples.

Observations:

Total silver was determined using inductively coupled plasma (ICP) emission spectroscopy.

A "U" flag in the C column on the sample result forms (Form I-IN) indicates that the concentration of that analyte in the sample is undetected at the method detection limit (MDL). For the sample concentration reported between the Contract Required Detection Limits (CRDL) and the instrument MDL, a "B" flag is shown in the C column on the Form I-IN.

Deviations from Contract:

None.

End of case Narrative.

01

100091

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Neil Pothier
Laboratory Manager

September 29, 2000
Date

Ceimic Corporation

Metals Laboratory

Metals Preparation Logbook

21

Date: 9/19/00

Review: UM

Analyst: JJ

Ceimic ID	Client ID	Prep LCS ID	Type	pH	Sample Wt/Vol	Spike ID	Final Vol	Color Before/After	Clarity Before/After	Texture	Artifacts & Comments
0919PBS	(457)	—	I	—	—	—	100ml	— / —	— / —	—	—
0919LCSS	(457)	M000304B	↓		1.00 g		↓	— / —	/	I	
200457-11	RJ013	—	↓		1.20		↓	mr. / yel.	/	med	
								/	/		
								/	/		
								/	/		
								/	/		
								/	/		
								/	/		
								/	/		
								/	/		
							JJ 9/19/00	/	/		
								/	/		
								/	/		
								/	/		
								/	/		
								/	/		
								/	/		

Color = red, blue, yellow, green, orange, violet, white, brown, grey, black, colorless

Clarity = clear, cloudy, opaque

Texture = fine (powder), medium (sand), coarse (large crystals or rocks)

Comments = artifacts and changes (ex. emulsion formation)

LCS ID includes volume taken and Ceimic ID

Δ 1:1 HNO_3: MR000625A

Con. HNO_3, R000706A8

Con. HCl: R000118A8

Pipette ID: —

1000 µl = —

400 µl = —

Acid Lot #(s): Δ

H_2O_2 Lot #: I000706A1

Prep type ICAP (I) or Zeeman (Z)

pH = <2 or >2 for waters

Spike ID = includes volume taken and Ceimic ID

Spike Witness:

QAT0037

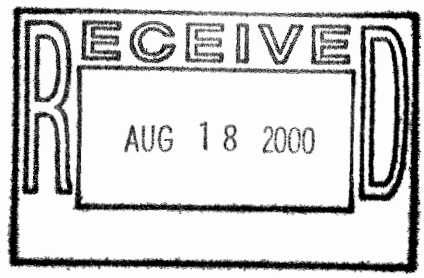
Page # 191

[redacted]

CEIMIC
Corporation

"Analytical Chemistry for Environmental Management"

August 17, 2000



Ms. Lisa Tucker
Ogden Environmental
5510 Moorehouse Drive
San Diego, CA 92121

Dear Ms. Hambrick:

Enclosed are the results for the analyses performed in support of Ogden Environmental, Rocketdyne Project, Project No. 313150, SDG No. RJ503. The 1 aqueous and 12 soil samples were taken from the field on June 29, 2000 and received at Ceimic Corporation on July 3, 2000.

These samples are reported under Ceimic Project Number 200457, which can be referenced when inquiring about this project.

Dioxin analyses were subcontracted to another laboratory and will be arriving separately.

If you have any questions or concern regarding this data, please call me at the telephone number listed below.

Sincerely,

Neil Pothier, Ph.D
Laboratory Manager

NP/djj

Enclosures

CC: Elizabeth Wessling
Ogden Data Validation Section
550 S. Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

INDEX

Page #

SIMS 151

PCB 179

TPH 382

Metals ..... ~~454~~ 461

Inorganic Analytes 611

Project Narrative

SDG Narrative

The enclosed data package is in response to Ogden Environmental, Rocketdyne Project, Project No. 313150, SDG No. RJ503. Under this SDG there are 2 SIMS, 8 PCB and 2 TPH analyses for 1 aqueous and 9 soil samples which were received at Ceimic Corporation on July 3, 2000.

This data package includes the analyses for the following samples from SDG No. RJ503:

(1)

Client ID	Ceimic ID	Analysis
RJ503	200457-01	PCB
RJ504	200457-02	PCB
RJ505	200457-03	PCB
RJ006	200457-04	PCB
RJ007	200457-05	PCB
RJ008	200457-06	PCB
RJ009	200457-07	PCB, TPH
RJ010	200457-08	PCB, TPH
RJ014	200457-12	SIM
RJ015	200457-13	SIM

The submitted data covers the analyses of the SIM, PCB and TPH fractions and their associated blanks and QA/QC. CEIMIC would like to highlight the following points pertaining to the analyses performed for this case:

(2) Sample Receipt

All samples were received intact and properly preserved.

The cooler temperatures upon receipt are annotated on the Chain of Custodies and on the Ceimic Sample Receiving Checklist.

(3) Instrumentation and Column Identification

The following instruments were used for the analyses:

GC/MS Analysis

A. SIM

MS9: HP5970B GC/MS using 30 m x 0.25 mm ID DB-5 fused silica capillary column.

GC Analysis

B. PCB

AD19_1: HP5890II using 30 m x 0.25 mm ID DB-5 megabore column, GC-3.

AD20_1: HP5890II using 30 m x 0.25 mm ID DB-17 megabore column, GC-3.

C. TPH

AD23_1: HP5890II using 30 m x 0.25 mm ID DB-5 megabore column, GC-9.

(4) Sample Information

Additional qualifier: "x"

An "x" qualifier is flagged by Formaster software whenever the data is manually edited.

The letters "M" for GC/MS and "FF" for GC are used on the raw data of the quantitation report whenever a manual integration is performed. These data manipulations are done only to correct for computer integration error.

A. SIM Fraction Method 8270

No noncompliance is noted.

B. PCB Fraction Method 8082

Due to software limitations the forms VI are laboratory instrument forms that document the five level calibration. These forms include retention times and their windows, response factors, %RSD areas and amounts for each compound at each level. The continuing calibrations percent differences are documented on the chromatographic reports.

All sample extracts underwent sulfuric acid washing to clean the extracts and reduce the chromatographic interferences.

Aroclor 1254 was detected in the following samples:
RJ503, RJ505, RJ006, RJ007, RJ008, RJ009,.

RJ007 required a five fold dilution.

C. TPH Fraction Method 80150G

The recovery of n-decane from the method blank and lab control sample was low. The recovery of the other two surrogates in these two QC samples were acceptable. N-decane recovery in the samples was acceptable. LCS spike recoveries were acceptable.

There were no petroleum hydrocarbons detected in the samples in this SDG.

Deviation from the SOW

None other than specified above.

End of SDG Narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Neil Pothier, Laboratory Manager

August 17, 2000
Date

CEIMIC CORPORATION
BNA Compliance Summary

Client : *Ogden Environmental*
Project: *200457*
Case : 313150002

Sample compliant with method/project, except where noted with an "X":

SAMPLES		Hold Time	Prep Blank	Initial CaL	Continuing CaL	LCS Recovery	MS Recovery	MS RPD	Surrogates	Internal Std
Ceimic ID	Client ID									
200457-12	RJ014									
200457-13	RJ015									

Approved by: _____

Inorganic SDG Narrative

Client Case ID: Rocketdyne
Ceimic Project No.: 200457
SDG No.: RJ503

The following samples were received at Ceimic Corporation on July 3, 2000:

RJ505 RJ009 RJ010

The above samples were digested and analyzed for total metals using SW846 methods 3050A/6010B in accordance with the Inorganic Statement of Work (SOW) ILM04.1.

The following sample was received at Ceimic Corporation on July 3, 2000:

RJ013

The above sample was digested and analyzed for total mercury using SW846 methods 7471A in accordance with the Inorganic Statement of Work (SOW) ILM04.1.

Comments on Data Package:

QA/QC Samples:

Inorganic Ventures CICV-1, CICV-2, and CICV-3 were used for the ICV and LCSW samples for the ICP metals. CPI CAL-3, CAL-5 and CAL-8 were used for the CCV sample for the ICP metals. Inorganic Ventures CLPP-ICS-A and CLPP-ICS-B were used for the ICSA and ICSAB samples.

Observations:

All elements except mercury were determined using inductively coupled plasma (ICP) emission spectroscopy. Mercury analysis was performed via automated cold vapor atomic absorption spectroscopy (CVAA).

A "U" flag in the C column on the sample result forms (Form I-IN) indicates that the concentration of that analyte in the sample is undetected at the method detection limit (MDL). For the sample concentration reported between the Contract Required Detection Limits (CRDL) and the instrument MDL, a "B" flag is shown in the C column on the Form I-IN.

Deviations from Contract:

None.

End of case Narrative.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Donald Tortorelli

Donald Tortorelli
Inorganic Laboratory Manager

7/25/00

Date

Chain-of-Custody

10/18/00 WED 10:26 FAX 303 935 6575 OGDEN ENVIRONMENTAL AND 001

SDG : RJ502
RJ503

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	1619
CONNECTION TEL	18026551248
SUBADDRESS	
CONNECTION ID	
ST. TIME	10/18 10:24
USAGE T	01'13
PGS.	2
RESULT	OK

OGDEN *ENVIRONMENTAL AND ENERGY SERVICES*

550 South Wadsworth Blvd., Suite 500
Lakewood, CO 80226
303.935.6505
fax: 303.935.6575

FACSIMILE

To: Jim Madison/ STL-VT
Fax No.: 802.655.1248

From: E. Wessling *sign:* E. Wessling

Date: 10/18/00 There are 2 Pages to transmit including this cover page

Subject: **Chain-of-Custody Form Analytical Request Change**

As per our conversation:
Please make the changes listed below to the chain-of-custody analytical request form.
Include this form with the final data deliverables for these samples.

COC No.	EPA Sample ID	OGDEN Sample ID	New EPA Sample ID	Method (s) Originally Requested	Method (s) Now Requested*
	RJ009	R1BS17S01	RZ009		Ag (10 Day TAT)
	RJ035	R1BS18S01	RZ035	Ag (Subcon to STL)	Cancell request due to insufficient volume

The reason for these changes is:

Incorrectly marked on COC form

200456 (20)

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RJ500
Date 6/29/00 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment: *EXTRACT BUT DO NOT RUN DIOX/SVOC

Cooler No: XØ66
QC Level: Level4
TAT: 14-day hardcopy summary, 28-day full package

Preservatives: HCl, pH<2 4°C | HCl, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4, pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C

WMU	Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ		Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
4.7	RJ500	CLBS59SØ1	0.5'	6/29/00	1110	88		X					X		X								X			HA			1
4.7	RJ501	CLBS60SØ1	1.0		1115	89		X					X		X								X			HA		*	1
6.8	RJ502	SNBS10SØ3	0.5'		1530	9																	X						1
6.8	RJ503	SNBS17SØ1	0.5'		1605	100																	X						1
6.8	RJ504	SNBS02SØ2	1.0'		1634	7																	X						1
6.8	RJ505	SNBS18SØ1	1.0'		1715	11a												X				X	X						1

6/29/00

Samplers Signature	Date 6/29/00	Time 1715
Relinquished By:	Date 6/30/00	Time 1845
Received By:	Date	Time
Relinquished By:	Date	Time
Received By (LAB):	Date 7/03/00	Time 10:00

1 Original, 2 Lab Copy, 3 Field Copy

For Lab Use

Lab Number: 200457

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature °C

HOMOGENIZE ALL SLEEVES EXCEPT RJ500 + RJ501

REV: 1

60

200457 (20)

OGDEN

5510 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
(619) 458-9044

Chain of Custody

Control Number: COC RJ006
Date 06/29/00 Page 1 of 1

Project Manager:	Dixie Hambrick
Project Name:	Rocketdyne
Project Number:	313150002
Deliver results to the address above or as stated in contract	

Bill To:	Purchasing
Company:	Ogden Environmental
Address:	5510 Morehouse Drive, San Diego, CA 92121

Sample Disposal Instructions: Laboratory Disposal
Shipment Method:
Comment:

Cooler No: RØ49
QC Level: Level4
TAT: 14-day hardcopy summary
28-day full package

Preservatives: HCL, pH<2 4°C | HCL, pH<2 4°C | 4°C | 4°C | 4°C | H_2SO_4, pH<2 4°C | 4°C | HNO_3, pH<2 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | 4°C | | | | | |

Sample ID	Description (for Ogden use only)	Depth	Date Collected	Time Collected	ULS Number	Lab ID	Soil	Water	Product	Contaminated Unit	8021 VOC	8015OG TPH	8270SIM SVOC	8270R SVOC	8290 DIOXIN	ASTM D19 FORMALDEHYDE	8330 ORDINANCE	1LM02.IRT METALSRT	7196 HEX CHROME	340.2 FLUORIDE	300 ANIONS	9045/9040 pH	8082 PCBs	IC HYDRAZ	Ag ONLY	Sampling Method	Extra Volume MS/MSD	HOLD	Total # of Bottles
SWMU AREA I AOC																													
RJØØ6	CTSSØ3SØ1	Ø	6/29/00	Ø9Ø5	16		X																			HA			1
RJØØ7	CTBS11SØ1	Ø.5		Ø95Ø	19		X																			HA			1
RJØØ8	CTSSØ4SØ1	Ø		1Ø3Ø	12		X			X															HA			1
4.16 RJØØ9	R1BS17SØ1	3		1335	28		X					X						X				X	X			HA			1
RJØ10	R1BS16SØ1	6		1420	23		X					X						X				X	X			HA			1
7.8 RJØ11	NCSSØ3SØ1	Ø		1520	15		X								X											HA			1
RJØ12	NCSSØ4SØ1	Ø		1535	16		X								X											HA			1
RJØ13	NCSSØ5SØ1	Ø		1600	14		X							6/29/00										X		HA			1
RJØ14	NCBS11SØ1	Ø.5		1605	11		X																			HA			1
RJØ15	NCQWØ5EØ1	—	↓	1810				X											HA										
	Trip Blank		6/29/00																										

Samplers Signature: [signature] Date 6/29/00 Time 1830

Relinquished By: [signature] Date 6/30/00 Time 1845

Received By: Date Time

Relinquished By: Date Time

Received By (LAB): Date Time

For Lab Use

Lab Number: 200457

Do COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC seal intact: Y or N
Any other problems: Y or N
If any YES, Ogden contacted: Y or N
Date contacted: ___/___/___
Temperature C

Homogenize Soil Sleeves Prior to Analysis.
DO NOT Homogenize RJØ14 for SVOCs.

1 Original, 2 Lab Copy, 3 Field Copy

REV: 1

10

CEIMIC CORPORATION
Sample Receiving Checklist

LIMS # 200457 Cooler Number: 1-2

Client: OGDEN Number of Coolers: 2

Project: 313150002 Date Received: 7/03/00

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 7/03/00

1. Have designated person initial here to acknowledge receipt of cooler: LG (date): 7/03/00

2. Did cooler come with a shipping slip (airbill, etc.)? ..... (YES) NO

If YES, enter carrier name & airbill number here: FX 347033972 5, FX 347033971 4

3. Were custody seals on outside of cooler? ..... (YES) NO

How many & where: 2 seal date: 6/30/00 seal name: Ceimic

4. Were custody seals unbroken and intact at the date and time of arrival ..... (YES) NO

5. Did you screen samples for radioactivity using a Geiger Counter? ..... Reading: nd (YES) NO

6. Chain of Custody #: RJ500, RJ006

7. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... (YES) NO

8. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO

9. Did you sign custody papers in the appropriate place? ..... (YES) NO

10. Was project identifiable from custody papers? ..... (YES) NO

11. If required, was enough ice used? ..... Cooler Temperature: ↓ °C Type of ice: blc YES (NO)
18°, 22°C

B. LOG-IN PHASE: Date samples were logged-in: 7/03/00

by (print): Lawson Gower (sign): Lawson Gower

12. Describe type of packing in cooler: ---

13. Were all bottles sealed in separate plastic bags? ..... (YES) NO

14. Did all bottles arrive unbroken and were labels in good condition? ..... (YES) NO

15. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO

16. Did all bottle labels agree with custody papers? ..... (YES) NO

17 Were correct containers used for the tests indicated? ..... (YES) NO

18. Were samples received at the correct pH? ..... (YES) NO

19. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO

20. Were bubbles absent in VOA samples? If NO, list by sample#: ..... (YES) NO

21 Laboratory labelling verified by: (Initials): LG (date): 7/03/00

QAT0261

See comments!

CEIMIC Corporation
Sample Log In Information

Date: 07/05/00 -12:16:51

Date Samples Received: 07/03/00

Date Due: 07/31/00

Client: Ogden Environmental

Project Name: Rocketdyne

Client Task: 313150002

Client Contact: Dixie Hambrick

Project #: 200457
SDG: RJ503
Case: 313150

Project Amount: $6,310.00

Stored : VOA.20

Ceimic Rep: HOUSE

Coordinator: NEIL

Report To : Ogden Environmental
5510 Morehouse Drive
San Diego, CA 92121

Attn : Dixie Hambrick

Invoice To: Ogden Environmental
5510 Morehouse Dr, Suite 300
San Diego, CA 92121

Attn : Accounts Payable

LAB ID	CLIENT ID	NO. CONT.	MATRIX	DATE RCVD	DATE SAMP	TIME SAMP	ANALYSIS & METHOD
-01A	RJ503	1	SOIL	07/03/00	06/29/00	16:05:00	PCB(8082)
-02A	RJ504	1	SOIL	07/03/00	06/29/00	16:34:00	PCB(8082)
-03A	RJ505	1	SOIL	07/03/00	06/29/00	17:15:00	PCB(8082) pH(9045) TAL Metals(6010B) TAL Metals(6010B), TRACE
-04A	RJ006	1	SOIL	07/03/00	06/29/00	09:05:00	PCB(8082)
-05A	RJ007	1	SOIL	07/03/00	06/29/00	09:50:00	PCB(8082)
-06A	RJ008	1	SOIL	07/03/00	06/29/00	10:30:00	PCB(8082)
-07A	RJ009	1	SOIL	07/03/00	06/29/00	13:35:00	TPH(8015OG) PCB(8082) pH(9045) TAL Metals(6010B) TAL Metals(6010B), TRACE
-08A	RJ010	1	SOIL	07/03/00	06/29/00	14:20:00	TPH(8015OG) PCB(8082) pH(9045) TAL Metals(6010B) TAL Metals(6010B), TRACE

Project #: 300457

LAB ID	CLIENT ID	NO. CONT.	MATRIX	DATE RCVD	DATE SAMP	TIME SAMP	ANALYSIS & METHOD
-09A	RJ011	1	SOIL	07/03/00	06/29/00	15:20:00	Dioxins(8290)
-10A	RJ012	1	SOIL	07/03/00	06/29/00	15:35:00	Dioxins(8290)
-11A	RJ013	1	SOIL	07/03/00	06/29/00	16:00:00	T Mercury
-12A	RJ014	1	SOIL	07/03/00	06/29/00	16:05:00	Dioxins(8290) SIM(8270)
-13A	RJ015	1	AQUEOUS	07/03/00	06/29/00	18:10:00	Dioxins(8290) SIM(8270)

Comments:
Homogenize soil sleeves prior to analysis
Do not homogenize RJ014 for SVOCs

Requirements:
Level IV; 28 day TAT
TPH = Ogden 4 ranges; 8270SIM = PAH's and NDMA
Dioxin and Asbestos subcontracted

K.T.: 10/29/00

LIMS Identifier: 0007004

LIMS Project Code: OGDEN_ROCKET

Approved by: _____
7/5/00

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

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, Group 6 Data Gap
Project Manager:	D. Hambrick
Analysis/Method:	Dioxin/Furans by Method 1613
QC Level:	V[1]
SDG:	IPD1011
Matrix:	Soil
No. of Samples:	6
No. of Reanalyses:	0
Date Reviewed:	April 21, 2006
Reviewer:	K. Shadowlight
Reference:	*National Functional Guidelines for Chlorinated Dioxin/Furan Data Review* (8/02), USEPA *Method 1613*
Samples Reviewed:	MJ775, MJ724, MJ729, MJ730, MJ735, MJ736

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received at Del Mar within the temperature limits of 4° ±2°C. The samples were shipped to Alta for dioxin/furan analysis and were received below the temperature limits at 0°C. As the samples were not noted to be damaged or frozen, no qualifications were required. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The original COC and transfer COC were signed and dated by field and laboratory personnel. According to a memo from MWH personnel, dated 04/12/06, the EPA ID was changed from MJ723 to MJ775 for Client ID NCBS18S01. The COCs accounted for the analyses presented in this SDG The EPA IDs were added to the sample result summaries.	No qualifications were required.

	Findings	Qualifications
Sample Management Cont.	The samples were extracted and analyzed within one year of sample collection.	No qualifications were required.
4. Method Blanks 0-7930-MB001	Target compounds HpCDD, OCDD, 1,2,3,4, 7,8-HxCDF, 1,2,3,4,7,8,9-HpCDF, and OCDF were reported at a concentrations below the laboratory lower calibration levels in the method blank. These target compounds were also reported in the samples of this SDG; however, the detects exceeded five times the concentrations reported in the method blank.	No qualifications were required.
5. OPR 0-7930-OPR001	All recoveries were within the acceptance criteria listed in Table 6 of Method 1613.	No qualifications were required.
6. MS/MSDs	MS/MSD analyses were not performed on the samples in this SDG.	No qualifications were required.
7. Field QC Samples FB: None ER: MJ615 (IPB1429) FD: None	Target compounds 1,2,3,4,6,7,8-HpCDD and OCDD were reported at concentrations below the laboratory lower calibration level in the equipment rinsate. HpCDD and OCDD were also reported in the samples of this SDG; however the detects exceeded five times the amount in the equipment rinsate.	No qualifications were required.
10. Other	According to the case narrative for this SDG, the results for OCDD were reported from diluted analyses in samples MJ775 and MJ724.	No qualifications were required.
	Diphenyl ether interference was present in several samples of this SDG and was denoted with a "D" flag by the laboratory.	Any detects with diethyl ether interference were qualified as estimated, "J," in the samples of this SDG.
	Target compound 2,3,7,8-TCDF was reported in sample MJ730; however, a confirmation analysis was not performed by the laboratory.	The detect for 2,3,7,8-TCDF was qualified as estimated, "J," in sample MJ730.
	There were detects reported below the laboratory lower calibration level.	Any detects below the laboratory lower calibration level were qualified as estimated, "J."
	Sample results were reported in units of pg/g on a dry-weight basis.	

	Findings	Qualifications
Comments	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 for all samples in this SDG.	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 performance, initial and continuing calibrations

ALTA

Sample ID: IPD1011-02 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27582-002	Date Received:	12-Apr-06
Project:	IPD1011	Sample Size:	12.7 g	QC Batch No.:	7930	Date Extracted	13-Apr-06
Date Collected:	10-Apr-06	%Solids:	78.2	Date Analyzed DB-5	16-Apr-06	Dates Analyzed DB-225	18-Apr-06
Time Collected:	1200						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	14.0			
1,2,3,7,8-PeCDD	52.3			
1,2,3,4,7,8-HxCDD	133			
1,2,3,6,7,8-HxCDD	589			
1,2,3,7,8,9-HxCDD	184			
1,2,3,4,6,7,8-HpCDD	11400			B
OCDD	123000			*
2,3,7,8-TCDF	4.92			
1,2,3,7,8-PeCDF	6.66			
2,3,4,7,8-PeCDF	21.7			
1,2,3,4,7,8-HxCDF	79.4			B
1,2,3,6,7,8-HxCDF	59.6			D
2,3,4,6,7,8-HxCDF	142			
1,2,3,7,8,9-HxCDF	16.7			
1,2,3,4,6,7,8-HpCDF	2230			B
1,2,3,4,7,8,9-HpCDF	206			
OCDF	5320			B

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	78.5	25 - 164	
	13C-1,2,3,7,8-PeCDD	85.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	81.4	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	83.7	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	103	23 - 140	
	13C-OCDD	75.8	17 - 157	*
	13C-2,3,7,8-TCDF	60.3	24 - 169	
	13C-1,2,3,7,8-PeCDF	77.6	24 - 185	
	13C-2,3,4,7,8-PeCDF	78.5	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	87.6	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	88.7	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	86.9	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	88.4	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	91.3	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	101	26 - 138	
	13C-OCDF	92.5	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	81.1	35 - 197	

Totals			
Total TCDD	35.5	36.7	
Total PeCDD	288		
Total HxCDD	2870		
Total HpCDD	19700		B
Total TCDF	154	155	
Total PeCDF	620		B,D
Total HxCDF	4200		B,D
Total HpCDF	10800		B

Toxic Equivalent Quotient (TEQ) Data [c]

TEQ (Min): 439

a. Sample specific estimated detection limit

b. Estimated maximum possible concentration

c. Method detection limit

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF)

Analyst: JMH

Approved By: William J. Luksemburg 19-Apr-2006 08:36

ALTA

Sample ID: IPD1011-07 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27582-003	Date Received:	12-Apr-06
Project:	IPD1011	Sample Size:	11.7 g	QC Batch No:	7930	Date Extracted:	13-Apr-06
Date Collected:	10-Apr-06	%Solids:	85.6	Date Analyzed DB-5:	17-Apr-06	Dates Analyzed DB-225:	18-Apr-06
Time Collected:	1225						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	5.11			
1,2,3,7,8-PeCDD	13.8			
1,2,3,4,7,8-HxCDD	34.0			
1,2,3,6,7,8-HxCDD	160			
1,2,3,7,8,9-HxCDD	65.6			
1,2,3,4,6,7,8-HpCDD	4510			B
OCDD	52700			B
2,3,7,8-TCDF	1.03			
1,2,3,7,8-PeCDF	1.37			J
2,3,4,7,8-PeCDF	3.93			
1,2,3,4,7,8-HxCDF	16.1			B
1,2,3,6,7,8-HxCDF	12.9			
2,3,4,6,7,8-HxCDF	28.5			
1,2,3,7,8,9-HxCDF	3.49			
1,2,3,4,6,7,8-HpCDF	537			B
1,2,3,4,7,8,9-HpCDF	49.9			
OCDF	1500			B

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	79.7	25 - 164	
	13C-1,2,3,7,8-PeCDD	85.1	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	79.4	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	80.4	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	92.8	23 - 140	
	13C-OCDD	79.1	17 - 157	
	13C-2,3,7,8-TCDF	57.6	24 - 169	
	13C-1,2,3,7,8-PeCDF	75.5	24 - 185	
	13C-2,3,4,7,8-PeCDF	76.9	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	84.1	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	86.1	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	85.1	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	85.3	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	84.2	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	95.0	26 - 138	
	13C-OCDF	77.7	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	84.5	35 - 197	

Totals			
Total TCDD	9.26	9.80	
Total PeCDD	64.3		
Total HxCDD	850		
Total HpCDD	8200		B
Total TCDF	29.2	29.8	
Total PeCDF	103		B
Total HxCDF	841		B,D
Total HpCDF	2550		B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 151

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: JMH

Approved By: William J. Luksemburg 19-Apr-2006 08:36

ALTA

Sample ID: IPD1011-08 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27582-004	Date Received:	12-Apr-06
Project:	IPD1011	Sample Size:	11.3 g	QC Batch No:	7930	Date Extracted:	13-Apr-06
Date Collected:	10-Apr-06	%Solids:	88.3	Date Analyzed DB-5:	17-Apr-06	Date Analyzed DB-225:	NA
Time Collected:	1225						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	0.596			
1,2,3,7,8-PeCDD	2.27			J
1,2,3,4,7,8-HxCDD	6.34			
1,2,3,6,7,8-HxCDD	29.5			
1,2,3,7,8,9-HxCDD	11.8			
1,2,3,4,6,7,8-HpCDD	921			B
OCDD	10600			B
2,3,7,8-TCDF	0.360			J
1,2,3,7,8-PeCDF	0.377			J
2,3,4,7,8-PeCDF	0.951			J
1,2,3,4,7,8-HxCDF	3.46			B
1,2,3,6,7,8-HxCDF	2.94			
2,3,4,6,7,8-HxCDF	6.58			
1,2,3,7,8,9-HxCDF	0.960			J
1,2,3,4,6,7,8-HpCDF	143			B
1,2,3,4,7,8,9-HpCDF	12.3			
OCDF	384			B

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	71.7	25 - 164	
	13C-1,2,3,7,8-PeCDD	80.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	76.6	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	79.5	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	87.2	23 - 140	
	13C-OCDD	70.9	17 - 157	
	13C-2,3,7,8-TCDF	58.6	24 - 169	
	13C-1,2,3,7,8-PeCDF	75.0	24 - 185	
	13C-2,3,4,7,8-PeCDF	75.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	82.1	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	83.0	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	81.8	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	83.7	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	83.2	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	94.9	26 - 138	
	13C-OCDF	77.8	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	76.6	35 - 197	

Totals				
Total TCDD	1.08			
Total PeCDD	12.0			
Total HxCDD	153			
Total HpCDD	1580			B
Total TCDF	7.50			
Total PeCDF	19.6		21.0	B
Total HxCDF	189			B,D
Total HpCDF	631			B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 30.2

a. Sample specific estimated detection limit

b. Estimated maximum possible concentration

c. Method detection limit

d. Lower control limit - upper control limit

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF)

Analyst: JMH

Approved By: William J. Luksemburg 19-Apr-2006 08:36

ALTA

Sample ID: IPD1011-13 MJ735 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name	Del Mar Analytical, Irvine	Matrix	Soil	Lab Sample:	27582-005	Date Received:	12-Apr-06
Project:	IPD1011	Sample Size:	12.6 g	QC Batch No.:	7930	Date Extracted:	13-Apr-06
Date Collected:	10-Apr-06	%Solids:	79.2	Date Analyzed DB-5:	17-Apr-06	Dates Analyzed DB-225:	18-Apr-06
Time Collected:	1320						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	0.553			
1,2,3,7,8-PeCDD	5.30			
1,2,3,4,7,8-HxCDD	12.7			
1,2,3,6,7,8-HxCDD	33.6			
1,2,3,7,8,9-HxCDD	24.5			
1,2,3,4,6,7,8-HpCDD	1060			B
OCDD	13100			B
2,3,7,8-TCDF	11.8			
1,2,3,7,8-PeCDF	3.72			
2,3,4,7,8-PeCDF	9.42			
1,2,3,4,7,8-HxCDF	11.5			B
1,2,3,6,7,8-HxCDF	7.99			D
2,3,4,6,7,8-HxCDF	9.58			
1,2,3,7,8,9-HxCDF	2.29			J
1,2,3,4,6,7,8-HpCDF	180			B
1,2,3,4,7,8,9-HpCDF	13.2			
OCDF	799			B

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	85.6	25 - 164	
	13C-1,2,3,7,8-PeCDD	90.1	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	75.7	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	76.0	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	88.3	23 - 140	
	13C-OCDD	65.6	17 - 157	
	13C-2,3,7,8-TCDF	66.9	24 - 169	
	13C-1,2,3,7,8-PeCDF	77.0	24 - 185	
	13C-2,3,4,7,8-PeCDF	77.9	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	80.5	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	80.5	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	81.5	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	84.4	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	81.4	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	96.6	26 - 138	
	13C-OCDF	77.6	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	93.6	35 - 197	

Totals			
Total TCDD	5.46	5.84	
Total PeCDD	32.2		
Total HxCDD	270		
Total HpCDD	2410		B
Total TCDF	117	121	
Total PeCDF	99.5		B,D
Total HxCDF	214		B,D
Total HpCDF	641		B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 45.9

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: JMH

Approved By: William J. Luksemburg 19-Apr-2006 08:36

ALTA

Sample ID:	IPD1011-14		EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27582-006	Date Received:	12-Apr-06
Project:	IPD1011	Sample Size:	13.1 g	QC Batch No.:	7930	Date Extracted:	13-Apr-06
Date Collected:	10-Apr-06	%Solids:	75.8	Date Analyzed DB-5:	17-Apr-06	Dates Analyzed DB-225:	18-Apr-06
Time Collected:	1325						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	0.999			
1,2,3,7,8-PeCDD	5.52			
1,2,3,4,7,8-HxCDD	11.1			
1,2,3,6,7,8-HxCDD	38.8			
1,2,3,7,8,9-HxCDD	21.3			
1,2,3,4,6,7,8-HpCDD	1040			B
OCDD	10800			B
2,3,7,8-TCDF	8.59			
1,2,3,7,8-PeCDF	4.97			
2,3,4,7,8-PeCDF	8.59			
1,2,3,4,7,8-HxCDF	11.5			B
1,2,3,6,7,8-HxCDF	8.53			
2,3,4,6,7,8-HxCDF	12.0			
1,2,3,7,8,9-HxCDF	2.96			
1,2,3,4,6,7,8-HpCDF	154			B
1,2,3,4,7,8,9-HpCDF	12.8			
OCDF	360			B

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	77.7	25 - 164	
	13C-1,2,3,7,8-PeCDD	74.7	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	77.3	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	79.9	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	89.4	23 - 140	
	13C-OCDD	74.5	17 - 157	
	13C-2,3,7,8-TCDF	77.6	24 - 169	
	13C-1,2,3,7,8-PeCDF	78.6	24 - 185	
	13C-2,3,4,7,8-PeCDF	78.7	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	82.2	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	82.6	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	82.0	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	85.3	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	84.2	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	94.6	26 - 138	
	13C-OCDF	81.5	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	83.6	35 - 197	

Totals			
Total TCDD	16.7	17.0	
Total PeCDD	55.0		
Total HxCDD	314		
Total HpCDD	2160		B
Total TCDF	100		
Total PeCDF	102	102	B
Total HxCDF	277	278	B,D
Total HpCDF	611		B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 43.0

a. Sample specific estimated detection limit

b. Estimated maximum possible concentration

c. Method detection limit

d. Lower control limit - upper control limit

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF)

Analyst: JMH

Approved By: William J. Luksemburg 19-Apr-2006 08:36

ALTA

Sample ID:	IPD1011-01 MJ 775						EPA Method 1613
Client Data		**Sample Data**		**Laboratory Data**			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27582-001	Date Received:	12-Apr-06
Project:	IPD1011	Sample Size:	12.5 g	QC Batch No.:	7930	Date Extracted:	13-Apr-06
Date Collected:	10-Apr-06	%Solids:	80.5	Date Analyzed DB-5:	16-Apr-06	Dates Analyzed DB-225:	18-Apr-06
Time Collected:	1155						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers		Labeled Standard	%R	LCL-UCL [d]	Qualifiers
2,3,7,8-TCDD	42.3				IS	13C-2,3,7,8-TCDD	78.8	25 - 164	
1,2,3,7,8-PeCDD	94.9					13C-1,2,3,7,8-PeCDD	82.7	25 - 181	
1,2,3,4,7,8-HxCDD	242					13C-1,2,3,4,7,8-HxCDD	83.5	32 - 141	
1,2,3,6,7,8-HxCDD	896					13C-1,2,3,6,7,8-HxCDD	84.6	28 - 130	
1,2,3,7,8,9-HxCDD	472					13C-1,2,3,4,6,7,8-HpCDD	115	23 - 140	
1,2,3,4,6,7,8-HpCDD	26500			B		13C-OCDD	88.5	17 - 157	*
OCDD	275000			*		13C-2,3,7,8-TCDF	63.4	24 - 169	
2,3,7,8-TCDF	4.84					13C-1,2,3,7,8-PeCDF	79.9	24 - 185	
1,2,3,7,8-PeCDF	11.3					13C-2,3,4,7,8-PeCDF	78.1	21 - 178	
2,3,4,7,8-PeCDF	25.5					13C-1,2,3,4,7,8-HxCDF	89.6	26 - 152	
1,2,3,4,7,8-HxCDF	83.0			B		13C-1,2,3,6,7,8-HxCDF	90.7	26 - 123	
1,2,3,6,7,8-HxCDF	80.1			D		13C-2,3,4,6,7,8-HxCDF	88.7	28 - 136	
2,3,4,6,7,8-HxCDF	142					13C-1,2,3,7,8,9-HxCDF	88.8	29 - 147	
1,2,3,7,8,9-HxCDF	18.7					13C-1,2,3,4,6,7,8-HpCDF	95.5	28 - 143	
1,2,3,4,6,7,8-HpCDF	2460			B		13C-1,2,3,4,7,8,9-HpCDF	104	26 - 138	
1,2,3,4,7,8,9-HpCDF	230					13C-OCDF	108	17 - 157	
OCDF	6930			B	CRS	37Cl-2,3,7,8-TCDD	83.6	35 - 197	

Totals				Toxic Equivalent Quotient (TEQ) Data [e]
Total TCDD	77.4	78.0		TEQ (Min): 871
Total PeCDD	471			
Total HxCDD	5960			a. Sample specific estimated detection limit.
Total HpCDD	55300		B	b. Estimated maximum possible concentration.
Total TCDF	186			c. Method detection limit.
Total PeCDF	664		B,D	d. Lower control limit - upper control limit.
Total HxCDF	3940		B,D	e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).
Total HpCDF	11400		B	

Analyst: JMH

Approved By: William J. Luksemburg 19-Apr-2006 08:36

Level V

OGDEN

DATA VALIDATION REPORT

ROCKETDYNE
SSFL RFI Program

ANALYSIS: METALS

SAMPLE DELIVERY GROUP: RJ503

Prepared by

Ogden—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Project:	Rocketdyne, SSFL RFI Program
Contract Task Order #:	313150002
SDG#:	RJ503
Project Manager:	D. Hambrick
Matrix:	Soil and water
Analysis:	Metals
QC Level:	IV
No. of Samples:	4
No. of Reanalyses/Dilutions:	0
Reviewer:	P. Meeks
Date of Review:	September 15, 2000

The samples listed in Table 1 were validated based on the guidelines outlined in the *Ogden Data Validation Procedure for Levels C and D metals and cyanide* (DVP-5, Rev. 2), *USEPA SW-846 Methods 6010A, 7000A* (11/90)*, and 7470A* (09/94), and the *National Functional Guidelines for Inorganic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on the Sample Result Forms with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
SNBS18S01	RJ505	200457-03	soil	6010/7000
R1BS17S01	RJ009	200457-07	soil	6010/7000
R1BS16S01	RJ010	200457-08	soil	6010/7000
NCSS05S01	RJ013	200457-11	soil	mercury only

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples arrived at the laboratory above the established temperature limit of 4°C " 2°C; however, due to the nonvolatile nature of the analytes, no qualifications were required. No sample preservation, handling or transport problems were noted for the metals samples. No sample qualifications were required.

2.1.2 Chain of Custody

The COC associated with sample RJ505 was not signed by laboratory personnel. The other COCs in the package were legible, were signed by the field and laboratory personnel, and accounted for the analyses presented in the data package, except for sample RJ013. Silver was the only analysis requested on the COC; however, the laboratory analyzed only for mercury. The sample condition questions were not answered on the COCs, but sample receiving checklists with this and additional information were included for all the samples. Custody seals were present and intact on the coolers. There was no documentation as to whether custody seals were present on the sample containers. No qualifications were required.

2.1.3 Holding Times

The dates of collection recorded on the COCs and the dates of analysis recorded in the raw data documented that all sample analyses were performed within the specified holding times of 6 months for metals (except mercury) and 28 days for mercury. No qualifications were assigned to sample results.

2.2 CALIBRATION

All ICV and CCV results provided on the Form IIs showed acceptable %Rs, 90-110% for the ICP metals, 85-115% for cyanide, and 80-120% for mercury. No qualifications were required based on the calibration information.

2.3 BLANKS

Detects and negative results were reported in the method blanks associated with the samples in this SDG. The sample results were qualified for the blanks as follows:

Findings	Associated Samples	Qualification of Data
Boron was reported in the soil method blank at -4.906 mg/kg.	RJ505 RJ009 RJ010	Nondetected boron in the samples was qualified "UJ."
Molybdenum was reported in the soil method blank at -5.074 mg/kg.	RJ505 RJ009 RJ010	Nondetected molybdenum in the sample was qualified "UJ."
Mercury was detected in the soil method blank at 0.082 mg/kg.	all site samples	Detected mercury in the samples was qualified "UJ."
Nickel was detected in the soil method blank at 3.75 mg/kg.	RJ505 RJ009 RJ010	Detected nickel in the samples was qualified "UJ."

2.4 ICP INTERFERENCE CHECK SAMPLE (ICP ICS)

The results for the ICSAB analyses reported on the Form IVs were within established control limits, but there were negative results in the ICSA analyses for boron and selenium, which are not present in the ICSA solution. The absolute values of these results were greater than the applicable CRDLs. Cadmium, lead, and molybdenum were also present in the ICSA analyses at, or greater than CRDL, but less than 2HCRDL. Selenium was present in ICSA1 at 2HCRDL; however, selenium was not detected in the site samples, so no sample qualifications were applied.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Solid LCS samples were analyzed with this SDG. All of the LCS results reported on the Form VIIs were within the laboratory's control limits, except for boron (78.5%), calcium (79.3%), molybdenum (79.2%), and mercury (127.0%); therefore, nondetected boron and molybdenum were qualified "UJ" and detected calcium in all site samples was qualified as estimated, "J." Mercury was nondetected in all site samples; therefore, no qualifications were applied for laboratory control sample deficiencies. No further qualifications were required.

2.6 LABORATORY DUPLICATES

No laboratory duplicate analysis was performed in association with the site samples; therefore, no assessment was made with respect to this criteria.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No matrix spike analysis was performed in association with the site samples; therefore, no assessment was made with respect to this criteria.

2.8 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis of these samples; therefore, furnace atomic absorption QC is not applicable.

2.9 ICP SERIAL DILUTION

No ICP serial dilution analysis was performed in association with the site samples; therefore, no assessment was made with respect to this criteria.

2.10 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in this data package. The sample results were verified against the instrument output and were found to be acceptable for the ICAP and CVAA analyses.

Sample RJ009 was subsequently analyzed for silver at Severn Trent Laboratory in Vermont and reported as RZ009. The result of the analysis at STL-Vt indicate that the sample matrix affected Ceimic's ICP and that the result reported by Ceimic was erroneous; therefore, the silver result for samples RJ009 was rejected, “R,” in favor of the result reported in SDG 80254. No further qualificaitons were required.

2.11 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.11.1 Field Blanks and Equipment Rinsates

There were no equipment rinsates associated with this SDG. RJ543 (SDG RJ514) was identified as the field blank associated with the site soil samples. Cobalt, lead, nickel, and vanadium were detected in RJ543, but not at sufficient concentration to qualify site samples. Antimony was detected in RJ543 at 2.0 ìg/L; therefore, detected antimony in RJ009, RJ010, and RJ505 was qualified as estimated, “J.” No further qualifications were required.

2.11.2 Field Duplicates

There were no field duplicate pairs associated with this package. Field duplicates are required at a rate of 10% per matrix for site samples; consequently, field duplicates are not required in every package.

T700MT1

Ceimic

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: RJ009

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 200457 SAS No.: SDG NO.: RJ503

Matrix (soil/water): SOIL Lab Sample ID: 200457-07

Level (low/med): LOW Date Received: 07/03/00

% Solids: 88.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	11100			P		
7440-36-0	Antimony	0.41	B		P	J	F
7440-38-2	Arsenic	6.3			P		
7440-39-3	Barium	54.4			P		
7440-41-7	Beryllium	0.53			P		
7440-42-8	Boron	2.9	U		P	UJ	B, L
7440-43-9	Cadmium	0.09	U		P	U	
7440-70-2	Calcium	1770			P	J	L
7440-47-3	Chromium	15.7			P		
7440-48-4	Cobalt	5.3			P		
7440-50-8	Copper	9.5			P		
7439-89-6	Iron	15600			P		
7439-92-1	Lead	5.3			P		
7439-95-4	Magnesium	3640			P		
7439-96-5	Manganese	194			P		
7439-97-6	Mercury	0.06			AV	UJ	B
7439-98-7	Molybdenum	0.57	U		P	UJ	B, L
7440-02-0	Nickel	11.5			P	UJ	B
7440-09-7	Potassium	1870			P		
7782-49-2	Selenium	0.96	U		P	U	
7440-22-4	Silver	4.4			P		
7440-23-5	Sodium	132	B		P		
7440-28-0	Thallium	0.16	U		P	U	
7440-62-2	Vanadium	26.7			P		
7440-66-6	Zinc	203			P		

OGDEN VALIDATED LEVEL IV

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Ceimic

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: RJ010

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 200457 SAS No.: SDG NO.: RJ503

Matrix (soil/water): SOIL Lab Sample ID: 200457-08

Level (low/med): LOW Date Received: 07/03/00

% Solids: 93.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	11600			P		
7440-36-0	Antimony	0.50	B		P	J	F
7440-38-2	Arsenic	6.5			P		
7440-39-3	Barium	60.6			P		
7440-41-7	Beryllium	0.55			P		
7440-42-8	Boron	3.0	U		P	UJ	B, L
7440-43-9	Cadmium	0.09	U		P	U	
7440-70-2	Calcium	1390			P	J	L
7440-47-3	Chromium	15.0			P		
7440-48-4	Cobalt	5.5			P		
7440-50-8	Copper	8.1			P		
7439-89-6	Iron	15800			P		
7439-92-1	Lead	4.6			P		
7439-95-4	Magnesium	3480			P		
7439-96-5	Manganese	224			P		
7439-97-6	Mercury	0.05			AV	UJ	B
7439-98-7	Molybdenum	0.59	U		P	UJ	B, L
7440-02-0	Nickel	10.5			P	UJ	B
7440-09-7	Potassium	2500			P		
7782-49-2	Selenium	0.99	U		P	U	
7440-22-4	Silver	4.1			P		
7440-23-5	Sodium	113	B		P		
7440-28-0	Thallium	0.16	U		P	U	
7440-62-2	Vanadium	27.3			P		
7440-66-6	Zinc	42.8			P		

OGDEN VALIDATED

LEVEL IV

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Ceimic

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

RJ013

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 200457 SAS No.: SDG NO.: RJ503

Matrix (soil/water): SOIL Lab Sample ID: 200457-11

Level (low/med): LOW Date Received: 07/03/00

% Solids: 99.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7439-97-6	Mercury	0.08			AV	UJ	B

OGDEN VALIDATED

LEVEL IV

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Ceimic

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

RJ505

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 200457 SAS No.: SDG NO.: RJ503

Matrix (soil/water): SOIL Lab Sample ID: 200457-03

Level (low/med): LOW Date Received: 07/03/00

% Solids: 97.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	Raw Qual	Qual Code
7429-90-5	Aluminum	13700			P		
7440-36-0	Antimony	0.80	B		P	J	F
7440-38-2	Arsenic	3.9			P		
7440-39-3	Barium	67.7			P		
7440-41-7	Beryllium	0.65			P		
7440-42-8	Boron	4.0	U		P	UJ	B, L
7440-43-9	Cadmium	0.03	U		P	U	
7440-70-2	Calcium	2410			P	J	L
7440-47-3	Chromium	24.0			P		
7440-48-4	Cobalt	6.1			P		
7440-50-8	Copper	12.4			P		
7439-89-6	Iron	18600			P		
7439-92-1	Lead	9.3			P		
7439-95-4	Magnesium	4480			P		
7439-96-5	Manganese	217			P		
7439-97-6	Mercury	0.07			AV	UJ	B
7439-98-7	Molybdenum	0.77	U		P	UJ	B, L
7440-02-0	Nickel	13.3			P	UJ	B
7440-09-7	Potassium	3210			P		
7782-49-2	Selenium	1.3	U		P	U	
7440-22-4	Silver	29.6			P		
7440-23-5	Sodium	77.4	B		P		
7440-28-0	Thallium	0.21	U		P	U	
7440-62-2	Vanadium	32.3			P		
7440-66-6	Zinc	64.8			P		

OGDEN VALIDATED

LEVEL IV

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

DATA ASSESSMENT FORM

Project Title:	Rocketdyne
Project Manager:	D. Hambrick
Analysis/Method:	Dioxins and Furans/EPA Method 8290
QC Level:	V[1]
SDG:	RJ503
Matrix:	Soil/Water
No. of Samples:	4
No. of Reanalyses/Dilutions:	0
Date Reviewed:	May 2, 2003
Reviewer:	L. Calvin
References:	National Functional Guidelines for Organic Data Review (2/94) and SW-846 Method 8290 (9/94).
Samples Reviewed:	RJ011, RJ012, RJ014, RJ015

Data Validation Findings

	Findings	Qualifications
1. Sample Management	Two sets of COCs, one from the field to Ceimic, and transfer COCs from Ceimic to Pace Analytical Services, were available for review. The COCs had appropriate relinquish and receipt signatures. The samples were received at Ceimic with a cooler temperature of 13°C, above the temperature limits of 4°C ±2°C. Information regarding cooler temperature and sample conditions upon receipt at Pace were not provided. The samples were extracted within 30 days of collection and analyzed within 45 days of extraction.	As the elevated cooler temperature would have little or no effect on the dioxin/furan compounds, no qualifications were required.
4. Method Blanks	One soil method blank and one water method blank were extracted and analyzed with the samples in this SDG. OCDD was detected in the soil method blank at 2.0 ng/kg. Associated sample concentrations for OCDD exceeded five times the blank concentration.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS	One soil blank spike and one water blank spike/blank spike duplicate pair were extracted and analyzed with the samples in this SDG. All reported recoveries were within the laboratory QC limits of 70-130%. RPDs for the blank spike/blank spike duplicate pair were within the method QC limits (for MS/MSD) of 20%.	No qualifications were required.
6. MS/MSDs	MS/MSD analyses were performed on sample RJ526 (SDG RJ514). The laboratory calculated the MS/MSD recoveries incorrectly. The native sample concentrations were not subtracted from the MS and MSD concentrations. The recoveries and RPDs were recalculated and the evaluation was performed based on the recalculated values. The MS %R was below the QC limits of 70-130% for 1,2,3,7,8,9-HxCDD and above the QC limits for 1,2,3,4,6,7,8-HpCDF and OCDF. The MSD %R was below the QC limits for 1,2,3,4,6,7,8-HpCDF. The %Rs for 1,2,3,4,6,7,8-HpCDD and OCDD were not assessed since their concentrations in the native sample exceeded four times the spike amount. The RPDs were above the method QC limit of 20% for 1,2,3,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDD, 1,2,3,4,6,7,8-HpCDF, and OCDF.	No qualifications were required.
7. Field QC Samples FB: RJ543 (SDG RJ514) ER: None FD: None	Field blank RJ543 did not have any detects for target compounds.	No qualifications were required.
8. Internal Standards	Internal standard recoveries were within the method QC limits of 40-135% for all samples.	No qualifications were required.
10. Other	The laboratory did not perform confirmation column analyses for the 2,3,7,8-TCDF detects. Compounds not meeting ion abundance criteria or with ether interference were reported as EMPCs. The soil samples were reported on a dry-weight basis.	The 2,3,7,8-TCDF detects were qualified as estimated, "J," in samples RJ011 and RJ014. The compounds reported as EMPCs were qualified as estimated, "UJ."

	Findings	Qualifications
Comments	The laboratory made modifications to the method. The laboratory used 15 labeled compounds as the internal standards instead of the nine compounds specified in the method.	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.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Analysis Results

Client - CEIMIC

Client's Sample ID	RJ011		
Lab Sample ID	2140415		
Filename	V00821I		
Injected By	BAL		
Total Amount Extracted	10.4 g	Matrix	SOLID
% Moisture	0.7	Dilution	3.33
Dry Weight Extracted	10.3 g	Collected	06/29/2000
ICAL Date	08/18/2000	Received	07/13/2000
CCal Filename(s)	V00821D & V00821M	Extracted	07/17/2000
Method Blank ID	BLANK-071700	Analyzed	08/21/2000 18:38

New Qual	Qual Code	Native Isomers	Conc ng/Kg	EMPC ng/Kg	LOD ng/Kg		Internal Standards	ng's Added	Percent Recovery
J	*10	2,3,7,8-TCDF	1.9	-----	0.45	J	2,3,7,8-TCDF-13C	2.00	76
		Total TCDF	16.0	-----	0.45		2,3,7,8-TCDD-13C	2.00	80
							1,2,3,7,8-PeCDF-13C	2.00	67
U		2,3,7,8-TCDD	ND	-----	1.30		2,3,4,7,8-PeCDF-13C	2.00	64
		Total TCDD	6.6	-----	1.30		1,2,3,7,8-PeCDD-13C	2.00	75
							1,2,3,4,7,8-HxCDF-13C	2.00	76
UJ	*10	1,2,3,7,8-PeCDF	-----	1.7	0.47	I	1,2,3,6,7,8-HxCDF-13C	2.00	48
J		2,3,4,7,8-PeCDF	3.3	-----	0.70	J	2,3,4,6,7,8-HxCDF-13C	2.00	72
		Total PeCDF	9.2	-----	0.58	J	1,2,3,7,8,9-HxCDF-13C	2.00	69
							1,2,3,4,7,8-HxCDD-13C	2.00	81
U		1,2,3,7,8-PeCDD	ND	-----	0.55		1,2,3,6,7,8-HxCDD-13C	2.00	83
J		Total PeCDD	4.6	-----	0.55	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	71
							1,2,3,4,7,8,9-HpCDF-13C	2.00	65
J		1,2,3,4,7,8-HxCDF	7.5	-----	0.55	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	71
UJ	*10	1,2,3,6,7,8-HxCDF	-----	9.2	0.56	E	OCDD-13C	4.00	81
J		2,3,4,6,7,8-HxCDF	4.2	-----	0.81	J			
		1,2,3,7,8,9-HxCDF	3.7	-----	0.89	J	1,2,3,4-TCDD-13C	2.00	NA
		Total HxCDF	150.0	-----	0.70		1,2,3,7,8,9-HxCDD-13C	2.00	NA
U		1,2,3,4,7,8-HxCDD	ND	-----	0.96		2,3,7,8-TCDD-37Cl4	0.20	94
J		1,2,3,6,7,8-HxCDD	11.0	-----	1.30	J			
		1,2,3,7,8,9-HxCDD	3.2	-----	1.20	J			
		Total HxCDD	89.0	-----	1.10				
UJ	*10	1,2,3,4,6,7,8-HpCDF	-----	110.0	0.91	E	Total 2,3,7,8-TCDD		
J		1,2,3,4,7,8,9-HpCDF	7.4	-----	1.20	J	Equivalence: 12 ng/Kg		
		Total HpCDF	180.0	-----	1.00		(Using ITE Factors)		
		1,2,3,4,6,7,8-HpCDD	320.0	-----	0.74				
		Total HpCDD	610.0	-----	0.74				
		OCDF	120.0	-----	1.90				
		OCDD	3900.0	-----	2.60				

AMEC VALI...

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
LOD = Limit of Detection
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Report No.....00-1034575

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Method 8290 Analysis Results

Client - CEIMIC

Client's Sample ID	RJ012		
Lab Sample ID	2140423		
Filename	V00821J		
Injected By	BAL		
Total Amount Extracted	10.1 g	Matrix	SOLID
% Moisture	0.2	Dilution	3.33
Dry Weight Extracted	10.1 g	Collected	06/29/2000
ICAL Date	08/18/2000	Received	07/13/2000
CCal Filename(s)	V00821D & V00821M	Extracted	07/17/2000
Method Blank ID	BLANK-071700	Analyzed	08/21/2000 19:44

rev qual code	Native Isomers	Conc ng/Kg	EMPC ng/Kg	LOD ng/Kg		Internal Standards	ng's Added	Percent Recovery
U	2,3,7,8-TCDF	ND	-----	0.46		2,3,7,8-TCDF-13C	2.00	73
	Total TCDF	ND	-----	0.46		2,3,7,8-TCDD-13C	2.00	80
						1,2,3,7,8-PeCDF-13C	2.00	71
	2,3,7,8-TCDD	ND	-----	0.79		2,3,4,7,8-PeCDF-13C	2.00	68
	Total TCDD	ND	-----	0.79		1,2,3,7,8-PeCDD-13C	2.00	79
						1,2,3,4,7,8-HxCDF-13C	2.00	75
	1,2,3,7,8-PeCDF	ND	-----	0.86		1,2,3,6,7,8-HxCDF-13C	2.00	58
	2,3,4,7,8-PeCDF	ND	-----	0.44		2,3,4,6,7,8-HxCDF-13C	2.00	73
	Total PeCDF	ND	-----	0.65		1,2,3,7,8,9-HxCDF-13C	2.00	74
						1,2,3,4,7,8-HxCDD-13C	2.00	79
	1,2,3,7,8-PeCDD	ND	-----	0.58		1,2,3,6,7,8-HxCDD-13C	2.00	80
	Total PeCDD	ND	-----	0.58		1,2,3,4,6,7,8-HpCDF-13C	2.00	75
						1,2,3,4,7,8,9-HpCDF-13C	2.00	72
	1,2,3,4,7,8-HxCDF	ND	-----	0.40		1,2,3,4,6,7,8-HpCDD-13C	2.00	78
	1,2,3,6,7,8-HxCDF	ND	-----	0.79		OCDD-13C	4.00	84
	2,3,4,6,7,8-HxCDF	ND	-----	0.64				
	1,2,3,7,8,9-HxCDF	ND	-----	0.60		1,2,3,4-TCDD-13C	2.00	NA
	Total HxCDF	ND	-----	0.61		1,2,3,7,8,9-HxCDD-13C	2.00	NA
	1,2,3,4,7,8-HxCDD	ND	-----	1.70		2,3,7,8-TCDD-37Cl4	0.20	96
	1,2,3,6,7,8-HxCDD	ND	-----	1.40				
	1,2,3,7,8,9-HxCDD	ND	-----	1.20				
	Total HxCDD	ND	-----	1.50				
UEI *10	1,2,3,4,6,7,8-HpCDF	-----	6.6	0.83	E	Total 2,3,7,8-TCDD		
U	1,2,3,4,7,8,9-HpCDF	ND	-----	0.92		Equivalence: 0.42 ng/Kg		
J	Total HpCDF	14	-----	0.88	J	(Using ITE Factors)		
	1,2,3,4,6,7,8-HpCDD	17	-----	1.60				
	Total HpCDD	41	-----	1.60				
J	OCDF	19	-----	2.30	J			
	OCDD	230	-----	3.30				

AMEC

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
LOD = Limit of Detection
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Report No.....00-1034575

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Method 8290 Analysis Results

Client - CEIMIC

Client's Sample ID	RJ014		
Lab Sample ID	2140431		
Filename	V00821K		
Injected By	BAL		
Total Amount Extracted	10.82 g	Matrix	SOLID
% Moisture	6.3	Dilution	3.33
Dry Weight Extracted	10.1 g	Collected	06/29/2000
ICAL Date	08/18/2000	Received	07/13/2000
CCal Filename(s)	V00821D & V00821M	Extracted	07/17/2000
Method Blank ID	BLANK-071700	Analyzed	08/21/2000 20:46

real qual	qual code	Native Isomers	Conc ng/Kg	EMPC ng/Kg	LOD ng/Kg		Internal Standards	ng's Added	Percent Recovery
J	*10	2,3,7,8-TCDF	13.0	-----	1.20		2,3,7,8-TCDF-13C	2.00	71
		Total TCDF	70.0	-----	1.20		2,3,7,8-TCDD-13C	2.00	78
							1,2,3,7,8-PeCDF-13C	2.00	71
U		2,3,7,8-TCDD	ND	-----	1.40		2,3,4,7,8-PeCDF-13C	2.00	65
		Total TCDD	45.0	-----	1.40		1,2,3,7,8-PeCDD-13C	2.00	76
							1,2,3,4,7,8-HxCDF-13C	2.00	76
J		1,2,3,7,8-PeCDF	5.4	-----	0.94	J	1,2,3,6,7,8-HxCDF-13C	2.00	73
		2,3,4,7,8-PeCDF	19.0	-----	1.00		2,3,4,6,7,8-HxCDF-13C	2.00	78
		Total PeCDF	68.0	-----	0.98		1,2,3,7,8,9-HxCDF-13C	2.00	75
							1,2,3,4,7,8-HxCDD-13C	2.00	87
U		1,2,3,7,8-PeCDD	ND	-----	1.00		1,2,3,6,7,8-HxCDD-13C	2.00	84
J		Total PeCDD	6.6	-----	1.00	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	73
							1,2,3,4,7,8,9-HpCDF-13C	2.00	73
		1,2,3,4,7,8-HxCDF	17.0	-----	0.82		1,2,3,4,6,7,8-HpCDD-13C	2.00	79
UJ	*10	1,2,3,6,7,8-HxCDF	-----	19	1.00	E	OCDD-13C	4.00	89
J		2,3,4,6,7,8-HxCDF	14.0	-----	0.81	J			
J		1,2,3,7,8,9-HxCDF	4.7	-----	1.10	J	1,2,3,4-TCDD-13C	2.00	NA
		Total HxCDF	210.0	-----	0.93		1,2,3,7,8,9-HxCDD-13C	2.00	NA
J		1,2,3,4,7,8-HxCDD	4.4	-----	0.86	J	2,3,7,8-TCDD-37Cl4	0.20	97
		1,2,3,6,7,8-HxCDD	17.0	-----	0.73				
J		1,2,3,7,8,9-HxCDD	5.8	-----	0.97	J			
		Total HxCDD	150.0	-----	0.85				
UJ	*10	1,2,3,4,6,7,8-HpCDF	-----	220	0.39	E	Total 2,3,7,8-TCDD		
J		1,2,3,4,7,8,9-HpCDF	12.0	-----	2.20	J	Equivalence: 30 ng/Kg		
		Total HpCDF	180.0	-----	1.30		(Using ITE Factors)		
		1,2,3,4,6,7,8-HpCDD	600.0	-----	2.20				
		Total HpCDD	1000.0	-----	2.20				
		OCDF	270.0	-----	5.10				
		OCDD	6900.0	-----	1.20				

AMEC VALID... LEV...

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
LOD = Limit of Detection
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Report No.....00-1034575

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Analysis Results

Client - CEIMIC

Client's Sample ID	RJ015		
Lab Sample ID	2140589		
Filename	V00821U		
Injected By	DGP		
Total Amount Extracted	963 mL	Matrix	WATER
% Moisture	NA	Dilution	2
Dry Weight Extracted	NA	Collected	06/29/2000
ICAL Date	08/18/2000	Received	07/13/2000
CCal Filename(s)	V00821M & V00821Y	Extracted	07/17/2000
Method Blank ID	BLANK-071700	Analyzed	08/22/2000 08:04

rev qual	qual code	Native Isomers	Conc ng/L	EMPC ng/L	LOD ng/L	Internal Standards	ng's Added	Percent Recovery
U		2,3,7,8-TCDF	ND	-----	0.0066	2,3,7,8-TCDF-13C	2.00	63
		Total TCDF	ND	-----	0.0066	2,3,7,8-TCDD-13C	2.00	67
						1,2,3,7,8-PeCDF-13C	2.00	61
		2,3,7,8-TCDD	ND	-----	0.0100	2,3,4,7,8-PeCDF-13C	2.00	60
		Total TCDD	ND	-----	0.0100	1,2,3,7,8-PeCDD-13C	2.00	68
						1,2,3,4,7,8-HxCDF-13C	2.00	75
		1,2,3,7,8-PeCDF	ND	-----	0.0062	1,2,3,6,7,8-HxCDF-13C	2.00	72
		2,3,4,7,8-PeCDF	ND	-----	0.0045	2,3,4,6,7,8-HxCDF-13C	2.00	74
		Total PeCDF	ND	-----	0.0054	1,2,3,7,8,9-HxCDF-13C	2.00	63
						1,2,3,4,7,8-HxCDD-13C	2.00	88
		1,2,3,7,8-PeCDD	ND	-----	0.0110	1,2,3,6,7,8-HxCDD-13C	2.00	86
		Total PeCDD	ND	-----	0.0110	1,2,3,4,6,7,8-HpCDF-13C	2.00	78
						1,2,3,4,7,8,9-HpCDF-13C	2.00	69
		1,2,3,4,7,8-HxCDF	ND	-----	0.0042	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
		1,2,3,6,7,8-HxCDF	ND	-----	0.0043	OCDD-13C	4.00	69
		2,3,4,6,7,8-HxCDF	ND	-----	0.0058			
		1,2,3,7,8,9-HxCDF	ND	-----	0.0056	1,2,3,4-TCDD-13C	2.00	NA
		Total HxCDF	ND	-----	0.0050	1,2,3,7,8,9-HxCDD-13C	2.00	NA
		1,2,3,4,7,8-HxCDD	ND	-----	0.0087	2,3,7,8-TCDD-37Cl4	0.20	73
		1,2,3,6,7,8-HxCDD	ND	-----	0.0070			
		1,2,3,7,8,9-HxCDD	ND	-----	0.0069			
		Total HxCDD	ND	-----	0.0075			
		1,2,3,4,6,7,8-HpCDF	ND	-----	0.0080	Total 2,3,7,8-TCDD		
		1,2,3,4,7,8,9-HpCDF	ND	-----	0.0080	Equivalence: 0.00 ng/L		
		Total HpCDF	ND	-----	0.0080	(Using ITE Factors)		
		1,2,3,4,6,7,8-HpCDD	ND	-----	0.0110			
		Total HpCDD	ND	-----	0.0110			
		OCDF	ND	-----	0.0130			
UJ		OCDD	-----	0.025	0.0170	I		

AMEC VALID... [illegible]

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
LOD = Limit of Detection
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Report No.....00-1034575

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

OGDEN ENVIRONMENTAL AND ENERGY SERVICES
550 South Wadsworth Blvd., Suite 500, Lakewood, CO 80226
303/935-6505, Fax 303/935-6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	PAHs/EPA Method 8270-SIM
QC Level:	V[1]
SDG:	L9903979
Matrix:	Soil
No. of Samples:	2
Date Reviewed:	October 30, 2001
Reviewer:	K. McNeill
Reference:	National Functional Guidelines For Organic Data Review (2/94)
Samples Reviewed:	RS888 & RS896.

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COCs were signed by the field and laboratory personnel, requested the performed method; however; no other sample receipt information was provided. Sample RS888 was received at cooler temperature of 9°C, which was outside of the QC limits 2°C and 4°C. No sample receipt temperature was noted for RS896.	No qualifications were required for the high cooler receipt or lack of cooler receipt temperature.
	Sample RS888 was extracted within 14 days of sample collection and analyzed within 40 days of the extraction.	No qualifications were required.
	Sample RS896 was extracted past the 14-day holding time, but was analyzed within 40-days of the extraction. The case narrative failed to note that the sample was extracted outside of holding times.	Sample RS896 had all nondetects qualified "UJ."
4. Method Blanks	Two soil method blanks were analyzed in this SDG. Both method blanks reported nondetects for all target compounds.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS	Two soil LCSs were extracted and analyzed in this SDG. The LCS sample associated with site sample RS896 reported a low recovery for naphthalene. The three other spiked compounds reported percent recoveries which were within the laboratory QC limits. The LCS associated with site sample RS888 reported percent recoveries which were within the laboratory QC limits for all four compounds.	No qualifications were required because only one of the four surrogate spikes was reported with an outlier recovery and the associated MS/MSD reported acceptable recoveries.
6. Surrogates	The surrogate recoveries for all samples were within the laboratory QC limits.	No qualifications were required.
7. MS/MSDs	An MS/MSD analysis was performed on site sample RS898. Both analyses (RS898MS and RS898MSD) reported percent recoveries within the laboratory QC limits, and RPDs were within the laboratory QC limits. Sample RS888 was associated with an MS/MSD from another laboratory SDG (L9903997). The sample set also reported percent recoveries within the laboratory QC limits, and the RPDs were within the laboratory QC limits.	No qualifications were required.
8. Field QC Samples ER: None FB: None Field Duplicate: None	No associated field QC samples were identified for this SDG. No evaluation of the site samples was made based on field QC.	No qualifications were required.
9. Other	The Form I reporting limits were reported on a dry weight basis.	None
Comments	None	None

[1] Level V validation consists of a 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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9903979
Project:	Rocketdyne/313150002	**Date Collected:**	9/22/99
Sample Matrix:	Soil	**Date Received:**	9/22/99

Selected Ion Monitoring (SIM)
Base Neutral Semivolatile Organic Compounds

Sample Name:	RS888	Units:	UG/KG
Lab Code:	L9903979-011	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Cont
N-Nitrosodimethylamine	EPA 3550	8270SIM	2	1	9/24/99	9/29/99	2	U	U	
Naphthalene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U		
Acenaphthylene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U		
Acenaphthene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U		
Diethyl Phthalate	EPA 3550	8270SIM	101	1	9/24/99	9/29/99	101	U		
Fluorene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U		
Phenanthrene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U		
Anthracene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U		
Di-n-butylPhthalate	EPA 3550	8270SIM	101	1	9/24/99	9/29/99	101	U		
Fluoranthene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	36			
Pyrene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	43			
Benz(a)anthracene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U	U	
Bis(2-ethylhexyl) Phthalate	EPA 3550	8270SIM	101	1	9/24/99	9/29/99	101	U		
Chrysene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U		
Benzo(b)fluoranthene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	65			
Benzo(k)fluoranthene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U	U	
Benzo(a)pyrene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	43			
Indeno(1,2,3-cd)pyrene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	53			
Dibenz(a,h)anthracene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U	U	
Benzo(g,h,i)perylene	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	31			
N-Nitrosodiphenylamine	EPA 3550	8270SIM	30	1	9/24/99	9/29/99	30	U	U	

N-Nitrosodimethylamine Reported Method Detection Limit

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 11/4/99

1S22/020597p

00402

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9903979
Project:	Rocketdyne/313150002	**Date Collected:**	9/23/99
Sample Matrix:	Soil	**Date Received:**	9/23/99

Selected Ion Monitoring (SIM)
Basc Neutral Semivolatile Organic Compounds

Sample Name:	RS896	Units:	UG/KG
Lab Code:	L9903979-018	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Rev 2 Qual
N-Nitrosodimethylamine	EPA 3550	8270SIM	2	1	10/21/99	10/24/99	2	U	UJ	H
Naphthalene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Acenaphthylene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Acenaphthene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Diethyl Phthalate	EPA 3550	8270SIM	100	1	10/21/99	10/24/99	100	U		
Fluorene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Phenanthrene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Anthracene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Di-n-butylPhthalate	EPA 3550	8270SIM	100	1	10/21/99	10/24/99	100	U		
Fluoranthene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Pyrene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Benz(a)anthracene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Bis(2-ethylhexyl) Phthalate	EPA 3550	8270SIM	100	1	10/21/99	10/24/99	100	U		
Chrysene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Benzo(b)fluoranthene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Benzo(k)fluoranthene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Benzo(a)pyrene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Indeno(1,2,3-cd)pyrene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Dibenz(a,h)anthracene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
Benzo(g,h,i)perylene	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U		
N-Nitrosodiphenylamine	EPA 3550	8270SIM	31	1	10/21/99	10/24/99	31	U	UJ	H

N-Nitrosodimethylamine Reported Method Detection Limit

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 11/4/99

1S22/020597p

03979SOA.AA3 - Sample 11/3/99

DATA ASSESSMENT FORM

Project Title:	Rocketdyne
Project Manager:	D. Hambrick
Analysis/Method:	Dioxins and Furans/EPA Method 8290
QC Level:	V[1]
SDG:	L9903979
Matrix:	Soil
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Date Reviewed:	October 29, 2001
Reviewer:	H. Chang
References:	National Functional Guidelines for Organic Data Review (2/94) and SW-846 Method 8290 (9/94).
Samples Reviewed:	RS888

Data Validation Findings

	Findings	Qualifications
1. Sample Management	Two sets of COCs, one from the field to Columbia Analytical Services and the other from Columbia to Alta Analytical Laboratory, were available for review. Both sets had appropriate relinquish and receipt signatures. The samples were received at columbia at a cooler temperature of 9°C. No other sample receipt conditions were recorded at Columbia. The sample was received in good condition and at a cooler temperature of 8°C at Alta. 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 detects for target compounds in the blank.	No qualifications were required.
5. LCS/BS	One soil LCS was extracted and analyzed with the sample in this SDG. All percent recoveries were within the laboratory QC limits of 70-130%.	No qualifications were required.

	Findings	Qualifications
6. MS/MSDs	No MS/MSD analyses were performed in this SDG. No evaluation was made on this basis.	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	Detects with ether interference were denoted with a laboratory qualifier of "D." The detects with ether interference are considered EMPCs. OCDD exceeded the upper method calibration limit. The sample was reported on a dry-weight basis.	1,2,3,4,6,7,8-HpCDF was qualified as "UJ" and total TCDF, total PeCDF, total HxCDF, and total HpCDF were qualified as "J." OCDD was qualified as "J."
Comments	The laboratory made modifications to the method. The laboratory used 16 labeled compounds as the internal standards instead of the nine compounds specified in the method.	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.

ALTA

PCDD & PCDF

EPA METHOD 8290

RS888

Sample ID: 9903979-011 **Date Received:** 9/24/99 **QC Lot:** LC1001S
Lab ID: 7356-0001-SA **Date Extracted:** 10/1/99 **Units:** pg/g
Matrix: Soil **Sample Amount:** 10.34 g **TEQ:** 110
% Solids: 99

Compound	Conc.	D.L.	Ratio	S/N Ratio	Qualifier	Rev Qual	Qual Code
2,3,7,8-TCDD	ND	0.98				U	
Total TCDD	110		0.75	>10:1			
1,2,3,7,8-PeCDD	ND	4.8				U	
Total PeCDD	73		1.68	>10:1			
1,2,3,4,7,8-HxCDD	7.9		1.12	>10:1			
1,2,3,6,7,8-HxCDD	56		1.35	>10:1			
1,2,3,7,8,9-HxCDD	11		1.24	>10:1			
Total HxCDD	610		1.20	>10:1			
1,2,3,4,6,7,8-HpCDD	3300		1.09	>10:1			
Total HpCDD	16000		1.03	>10:1			
OCDD	40000		0.86	>10:1		J	*10
2,3,7,8-TCDF	10		0.71	>10:1			
Total TCDF	95		0.70	>10:1	D	J	*10
1,2,3,7,8-PeCDF	9.4		1.39	>10:1			
2,3,4,7,8-PeCDF	18		1.58	>10:1			
Total PeCDF	160		1.33	>10:1	D	J	*10
1,2,3,4,7,8-HxCDF	44		1.26	>10:1			
1,2,3,6,7,8-HxCDF	26		1.14	>10:1			
2,3,4,6,7,8-HxCDF	22		1.25	>10:1			
1,2,3,7,8,9-HxCDF	15		1.23	>10:1			
Total HxCDF	810		1.22	>10:1	D	J	*10
1,2,3,4,6,7,8-HpCDF	560		1.06	>10:1	D	UJ	*10
1,2,3,4,7,8,9-HpCDF	63		0.92	>10:1			
Total HpCDF	2700		1.06	>10:1	D	J	*10
OCDF	840		0.82	>10:1			

Analyst: BS

Reviewer:

AMEC VALIDATED

[illegible]

2407

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

0

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Project Manager: D. Hambrick
Analysis/Method: Hexavalant Chromium, pH
No. of Samples: 3
Date Completed: October 20,1998
Reviewer: K. Chapman
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994), Columbia Analytical Services SOP 96-WET-Cr6S-00M* (Revision 1, 7/26/96), and *Columbia Analytical Services SOP 96-WET-PHS-00* (Revision 1, 7/26/96)
SDG: L9800225
Samples Reviewed: RS681, RS166, RS167

EPA Level V- General Minerals Assessment Form

	Problems	Qualifications
1. Sample Management	The holding time for the pH analysis was exceeded. All other holding times were met. The temperature upon arrival at the laboratory was 7 C. Corrections to the COC listing samples RS166 and RS167 were initialed, but not dated.	All site sample pH results were qualified as estimated, "J." As the target analytes are not volatile, qualifications are not assigned for the temperature of the samples upon receipt; therefore, no qualifications were deemed necessary.
2. Method Blanks	Acceptable as reviewed.	None
3. LCS/BS	Acceptable as reviewed.	None
4. Duplicates Performed on sample RS166	Acceptable as reviewed. (pH only)	None
5. MS/MSDs Performed on sample RS677	Acceptable as reviewed.	None
6. Field QC Samples ER: RF724	No detects were reported for either field QC sample.	None

FB: RF848 Field duplicates: none		
7. Other	None	None
8. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800225
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Inorganic Parameters

Sample Name: RS166
Lab Code: L9800225-005 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Lab Qual
pH	pH UNITS	9045	0.1	1	1/28/98	1/28/98	8.1		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Cydie Schwartz Date: 3/17/98

1544/021397p

7003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800225
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Inorganic Parameters

Sample Name: RS167
Lab Code: L9800225-006 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Ice
pH	pH UNITS	9045	0.1	1	1/28/98	1/28/98	7.4		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 3/17/98
1344/021397p

7004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800225
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Inorganic Parameters

Sample Name: RS681
Lab Code: L9800225-001 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qt Cu
Chromium, Hexavalent	MG/KG	7196	0.11	20	1/28/98	1/29/98	2.2	U	U	

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 3/17/98
1844/021397p

7002

OGDEN ***ENVIRONMENTAL AND ENERGY SERVICES***

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Project Manager: D. Hambrick
Analysis/Method: General Minerals
No. of Samples: 7
Date Completed: October 20, 1998
Reviewer: K. Chapman
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994)*, *Columbia Analytical Services SOP 96-WET-IC-00M* (Revision 1, 7/26/96), *Columbia Analytical Services SOP 96-WET-FISE-00M* (Revision 1, 7/26/96), and *Columbia Analytical Services SOP 96-WET-PHS-00* (Revision 1, 7/26/96)
SDG: L9704259
Samples Reviewed: RS540, RS545, RS549, RS01, RS06, RS07, RS08

EPA Level V- General Minerals Assessment Form

	Problems	Qualifications
1. Sample Management	The holding times were exceeded for the pH and the nitrate/nitrite analyses. All other holding times were met. The temperature of the samples upon receipt was 9 C. According to a memo, dated 12/02/02, from Montgomery Watson, the EPA IDs for four samples in this SDG were changed from RS001, RS006, RS007, and RS008 to RS01, RS06, RS07, and RS08, respectively.	All site sample pH and nitrate/nitrite results were qualified as estimated "J" for detects and "UJ" for nondetects. As the target analytes are not volatile, qualifications are not assigned for the temperature of the samples upon receipt; therefore, no qualifications were deemed necessary.
2. Method Blanks	Acceptable as reviewed.	None
3. LCS/BS	Acceptable as reviewed.	None
4. Duplicates Performed on sample RS540	Acceptable as reviewed. (pH only)	None
5. MS/MSDs	Acceptable as reviewed.	None.

Performed on samples RS01 and RS545 (see section 1)		
6. Field QC Samples ER: RF857, RF810, RF020 FB: RF848 Field duplicates: none	No detects were noted in any of the field QC samples.	None
7. Other	None	None
8. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Inorganic Parameters

Sample Name: RS001
Lab Code: L9704259-013
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	
pH	pH UNITS	9045	0.1	1	12/12/97	12/12/97	10.0		J	t
Chloride	MG/KG	300.0	11	1	12/16/97	12/16/97	58			
Fluoride	MG/KG	340.2	2.0	1	12/16/97	12/17/97	5.3			
Nitrate as Nitrate	MG/KG	300.0	11	1	12/16/97	12/16/97	17		J	H
Nitrite	MG/KG	300.0	11	1	12/16/97	12/16/97	11	U	UJ	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schmidt Date: 3/9/98

IS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Inorganic Parameters

Sample Name: RS006
Lab Code: L9704259-018
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
pH	pH UNITS	9045	0.1	1	12/12/97	12/12/97	7.5	J H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schmidt Date: 3/9/98

IS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Inorganic Parameters

Sample Name: RS007
Lab Code: L9704259-019 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Q
pH	pH UNITS	9045	0.1	1	12/12/97	12/12/97	7.7		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 3/9/98

1S44/021397p

11007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Inorganic Parameters

Sample Name: RS008
Lab Code: L9704259-020
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
pH	pH UNITS	9045	0.1	1	12/12/97	12/12/97	7.7	J H

LEVEL V

OGDEN VALIDATED

Approved By: Erika Schwartz Date: 3/9/98

IS44/021397p

11008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Inorganic Parameters

Sample Name: RS540
Lab Code: L9704259-003 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
pH	pH UNITS	9045	0.1	1	12/12/97	12/12/97	7.2	J

Rev Qual

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schmidt Date: 3/9/98

IS44/021397p

11002

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Inorganic Parameters

Sample Name: RS545
Lab Code: L9704259-007
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Q Co
pH	pH UNITS	9045	0.1	1	12/12/97	12/12/97	6.8		J	1
Chloride	MG/KG	300.0	12	1	12/16/97	12/16/97	12	U	U	
Fluoride	MG/KG	340.2	2.0	1	12/16/97	12/17/97	2.5			
Nitrate as Nitrate	MG/KG	300.0	12	1	12/16/97	12/16/97	12	U	UJ	H
Nitrite	MG/KG	300.0	12	1	12/16/97	12/16/97	12	U	UJ	H

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Schuman Date: 3/9/98

IS44/021397p

11003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Inorganic Parameters

Sample Name: RS549
Lab Code: L9704259-011
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Rev Qual
pH	pH UNITS	9045	0.1	1	12/12/97	12/12/97	7.9	J	H	

LEVEL V

OGDEN VALIDATED

Approved By: Cydie Schmit Date: 3/9/98

IS44/021397p

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

0

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Project Manager: D. Hambrick
Analysis/Method: General Mineral
No. of Samples: 19
Date Completed: July 2, 1998
Reviewer: K. Chapman
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994)*, Columbia Analytical Services SOP 96-WET-PHS-00 (Revision 1, 7/26/96), Columbia Analytical Services SOP 96-WET-IC-00M (Revision 1, 7/26/96), and Columbia Analytical Services SOP 96-WET-FISE-00M (Revision 1, 7/26/96)
SDG: L9703923
Samples Reviewed: RF861, RF866, RF279, RF280, RF281, RF282, RF286, RF287, RF289, RF871, RF872, RF873, RF874, RF879, RF290, RF302, RF305, RF306, and RF310

EPA Level V- General Minerals Assessment Form

	Problems	Qualifications
1. Sample Management	Holding time exceeded for pH, nitrite and nitrate analyses.	All site sample pH results qualified as estimated, "J." Nitrite and nitrate results for samples RF861, RF866, and RF282 qualified as estimated, "J" for detects and "UJ" for nondetects.
2. Method Blanks	Acceptable as reviewed.	None
3. LCS/BS	Acceptable as reviewed.	None
4. Duplicates Performed on samples RF279, RF311, RF871, and RF290	Acceptable as reviewed. (pH only)	None
5. MS/MSDs Performed on samples RF874 and RF866	Acceptable as reviewed.	None
6. Field QC Samples	No detects were noted in any of the	None

ER: RF020 and RF848 FB: RF848	field QC samples. Not applicable to the pH analysis.	
7. Other	None	None
8. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Inorganic Parameters

Sample Name: RF279
Lab Code: L9703923-003
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code Rev Qual	
pH	pH UNITS	9045	0.1	1	11/15/97	11 15 97	8.1		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Stewart Date: 2/12/98

1S44/021397p

5004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Inorganic Parameters

Sample Name: RF280
Lab Code: L9703923-004
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code	Rev Qual
pH	pH UNITS	9045	0.1	1	11/15/97	11/15 97	8.2		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Evelyn Schwartz Date: 2/12/98

5005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Inorganic Parameters

Sample Name: RF281
Lab Code: L9703923-005
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
pH	pH UNITS	9045	0.1	1	11/15/97	11/15/97	7.9		J / H

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Schwartz Date: 2/11/98

1544/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Inorganic Parameters

Sample Name: RF282
Lab Code: L9703923-006
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	11/15/97	11/15/97	8.2		J	H
Chloride	MG/KG	300.0	11	1	11/18/97	11/19/97	11	U	U	
Fluoride	MG/KG	340.2	2.0	1	11/18/97	11/18/97	11			
Nitrate as Nitrate	MG/KG	300.0	11	1	11/18/97	11/19/97	11	U	UJ	H
Nitrite	MG/KG	300.0	11	1	11/18/97	11/19/97	11	U	UJ	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 2/10/98

1S44/021397p

5007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Inorganic Parameters

Sample Name: RF286
Lab Code: L9703923-007
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
pH	pH UNITS	9045	0.1	1	11/18/97	11/18 97	8.3		J / H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schmidt Date: 2/10/98

1544021397p

5008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Inorganic Parameters

Sample Name: RF287
Lab Code: L9703923-008
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
pH	pH UNITS	9045	0.1	1	11/18/97	11/18/97	7.8		J / H

LEVEL V

OGDEN VALIDATED

Approved By: Linda Schmidt Date: 2/12/98

IS44/021397p

5009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Inorganic Parameters

Sample Name: RF289
Lab Code: L9703923-009
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	11/18/97	11/18/97	7.7		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Erika Schmidt Date: 2/12/98

1544/021397p

5010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/18/97
Sample Matrix:	Soil	**Date Received:**	11/18/97

Inorganic Parameters

Sample Name: RF290
Lab Code: L9703923-016
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code Rev Qual
pH	pH UNITS	9045	0.1	1	11/19/97	11/19/97	7.7		J H

LEVEL V

OGDEN VALIDATED

Approved By: Eric Schmidt Date: 2/10/98

IS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/18/97
Sample Matrix:	Soil	**Date Received:**	11/18/97

Inorganic Parameters

Sample Name: RF302
Lab Code: L9703923-017
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code	Rev Qual
pH	pH UNITS	9045	0.1	1	11/19/97	11/19/97	7.6		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eric Schmidt Date: 2/12/98

IS44/021397p

5017

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/18/97
Sample Matrix:	Soil	**Date Received:**	11/18/97

Inorganic Parameters

Sample Name: RF305
Lab Code: L9703923-018
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	11/19/97	11/19/97	7.6		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

5018

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/18/97
Sample Matrix:	Soil	**Date Received:**	11/18/97

Inorganic Parameters

Sample Name: RF306
Lab Code: L9703923-019
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
pH	pH UNITS	9045	0.1	1	11/19/97	11/19 97	7.4		J H

LEVEL V

OGDEN VALIDATED

Approved By: Date: 2/12/98

1S41/021397p

5019

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/19/97
Sample Matrix:	Soil	**Date Received:**	11/19/97

Inorganic Parameters

Sample Name: RF310
Lab Code: L9703923-020
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	11/20/97	11/20/97	7.3		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

5020

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Inorganic Parameters

Sample Name: RF861
Lab Code: L9703923-001
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	11/15/97	11/15/97	7.5		J	H
Chloride	MG/KG	300.0	11	1	11/18/97	11/19/97	11	U	U	
Fluoride	MG/KG	340.2	2.0	1	11/18/97	11/18/97	6.7			
Nitrate as Nitrate	MG/KG	300.0	11	1	11/18/97	11/19/97	11	U	UJ	H
Nitrite	MG/KG	300.0	11	1	11/18/97	11/19/97	11	U	UJ	H

LEVEL V

OGDEN VALIDATED

Approved By: Eyrdie Lakwast Date: 2/12/98

1S44/021397p

5002

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Inorganic Parameters

Sample Name: RF866
Lab Code: L9703923-002
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	11/15/97	11/15/97	8.1		J	H
Chloride	MG/KG	300.0	11	1	11/18/97	11/19/97	13			
Fluoride	MG/KG	340.2	2.0	1	11/18/97	11/18/97	2.0	U	UJ	
Nitrate as Nitrate	MG/KG	300.0	11	1	11/18/97	11/19/97	18		J	H
Nitrite	MG/KG	300.0	11	1	11/18/97	11/19/97	11	U	UJ	H

LEVEL V

OGDEN VALIDATED

Approved By: Judy Schmidt Date: 2/12/98

1544/021397p

5003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Inorganic Parameters

Sample Name: RF871
Lab Code: L9703923-010
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code	Rev Qual
pH	pH UNITS	9045	0.1	1	11/18/97	11/18 97	7.4		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schmidt Date: 2/10/98

1S44/021397p

5011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Inorganic Parameters

Sample Name: RF872
Lab Code: L9703923-011
Test Notes:

Basis: Dry

Qual Code / Rev Qual / 5 / #

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
pH	pH UNITS	9045	0.1	1	11/18/97	11/18 97	7.7	

LEVEL V

OGDEN VALIDATED

Approved By: _____ Date: 2/12/98

1544/021397p

5012

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Inorganic Parameters

Sample Name: RF873
Lab Code: L9703923-012
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	11/18/97	11/18/97	6.8		J	H
Chloride	MG/KG	300.0	12	1	11/18/97	11/19/97	12	U	U	
Fluoride	MG/KG	340.2	2.0	1	11/18/97	11/18/97	5.0			
Nitrate as Nitrate	MG/KG	300.0	12	1	11/18/97	11/19/97	12	U	U	
Nitrite	MG/KG	300.0	12	1	11/18/97	11/19/97	12	U	U	

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

5013

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Inorganic Parameters

Sample Name: RF874
Lab Code: L9703923-013
Test Notes:

Basis: Dry

Qual Code
Rev Qual

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Chloride	MG/KG	300.0	12	1	11/18/97	11/19/97	12	U u
Fluoride	MG/KG	340.2	2.0	1	11/18/97	11/18/97	5.9	
Nitrate as Nitrate	MG/KG	300.0	12	1	11/18/97	11/19/97	12	U u
Nitrite	MG/KG	300.0	12	1	11/18/97	11/19/97	12	U u

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

5014

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Inorganic Parameters

Sample Name: RF879
Lab Code: L9703923-015
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
pH	pH UNITS	9045	0.1	1	11/18/97	11/18/97	7.8	

Rev Qual Code | Final Code
5 | H

LEVEL V

OGDEN VALIDATED

Approved By: Cyndi Schmidt Date: 2/12/98

1S44/021397p

5015

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

0

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Project Manager: D. Hambrick
Analysis/Method: General Mineral
No. of Samples: 13
Date Completed: June 26, 1998
Reviewer: K. Chapman
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994)*, Columbia Analytical Services SOP 96-WET-IC-00M (Revision 1, 7/26/96), Columbia Analytical Services SOP 96-WET-FISE-00M (Revision 1, 7/26/96), and Columbia Analytical Services SOP 96-WET-PHS-00 (Revision 1, 7/26/96)
SDG: L9703846
Samples Reviewed: RF242, RF243, RF244, RF245, RF246, RF247, RF248, RF262, RF254, RF255, RF256, RF257, and RF258

EPA Level V- General Minerals Assessment Form

	Problems	Qualifications
1. Sample Management	Holding time exceeded for pH analysis.	All site sample pH results qualified as estimated, "J."
2. Method Blanks	Acceptable as reviewed.	None
3. LCS/BS	Acceptable as reviewed.	None
4. Duplicates Performed on samples RF248 and RF262	Acceptable as reviewed. (pH only)	None
5. MS/MSDs Performed on samples RF254 and RF837	Acceptable as reviewed.	None
6. Field QC Samples	No detects were reported for either of the field QC samples. Not applicable	None

ER: RF020 FB: RE848	to pH analysis.	
7. Other	None	None
8. Comments	The pH result for sample RF262 was greater than the high LCS check standard.	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Inorganic Parameters

Sample Name: RF242
Lab Code: L9703846-002
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code Rev Qual
pH	pH UNITS	9045	0.1	1	11/12/97	11/12/97	7.6		J H

LEVEL V

Approved By: Cindy Schwartz Date: 2/12/98

OGDEN VALIDATED

IS:44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Inorganic Parameters

Sample Name: RF243
Lab Code: L9703846-003
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	11/12/97	11/12/97	7.4		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

9003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Inorganic Parameters

Sample Name: RF244
Lab Code: L9703846-004
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	11/12/97	11/12/97	7.5		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schurgt Date: 2/12/98

1S44/021397p

9004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Inorganic Parameters

Sample Name: RF245
Lab Code: L9703846-005
Test Notes:

Basis: Dry

Orig Lab Rev Qual

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes		
pH	pH UNITS	9045	0.1	1	11/12/97	11.12/97	7.5		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Schwartz Date: 2/12/98

IS44/021397p

9005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Inorganic Parameters

Sample Name: RF246
Lab Code: L9703846-006
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
pH	pH UNITS	9045	0.1	1	11/12/97	11/12/97	8.7		J / H

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Schwartz Date: 2/12/98

1544/021397p

9006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Inorganic Parameters

Sample Name: RF247
Lab Code: L9703846-007
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
pH	pH UNITS	9045	0.1	1	11/12/97	11/12/97	7.9		J / +

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

9007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Inorganic Parameters

Sample Name: RF248
Lab Code: L9703846-008
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
pH	pH UNITS	9045	0.1	1	11/12/97	11/12/97	8.2		J / H

LEVEL V

OGDEN VALIDATED

Approved By: Cydia Schwartz Date: 2/12/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF254
Lab Code: L9703846-014
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Lab Code Per Qual
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	12		
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/18/97	2.9		
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	W
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	W

SCREEN VALIDATED

LEVEL V

Revised
1/14/99 AL

Approved By: _____ Date: 9/25/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF255
Lab Code: L9703846-015
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	
Chloride	MG/KG	300.0	12	1	11/13/97	11/14/97	18		
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/18/97	5.6		
Nitrate as Nitrate	MG/KG	300.0	12	1	11/13/97	11/14/97	12	U	w
Nitrite	MG/KG	300.0	12	1	11/13/97	11/14/97	12	U	w

Reviewed
1/14/99 AR

Approved By: _____ Date: 9/25/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF262
Lab Code: L9703846-010
Test Notes:

Basis: Dry

Qual Code
Removed

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	
pH	pH UNITS	9045	0.1	1	11/13/97	11/13/97	10.8		
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	w
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/18/97	5.5		
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	w
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	w

OGDEN VALIDATED

LEVEL V

Removed
1/14/99 AZ

Approved By: _____ Date: 9/25/98

tS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF256
Lab Code: L9703846-016
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	13		
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/18/97	2.5		
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	w
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	w

Revised
1/14/99 AC

Approved By: _____ Date: 9/25/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF257
Lab Code: L9703846-017
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Revised	Since 1997
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	29			
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/18/97	3.1			
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	w	
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	w	

Revised
1/14/99 AL

Approved By: _____ Date: 9/25/98
1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF258
Lab Code: L9703846-018
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	27	
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/18/97	55	
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	12	
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U

Revised
1/14/99

Approved By: _____ Date: 9/25/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF254
Lab Code: L9703846-014
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Lab Qual Code / Rev Qual
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	12		
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/14/97	2.9		
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	U
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	U

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

9010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF255
Lab Code: L9703846-015
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
Chloride	MG/KG	300.0	12	1	11/13/97	11/14/97	18		
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/14/97	5.6		
Nitrate as Nitrate	MG/KG	300.0	12	1	11/13/97	11/14/97	12	U	S
Nitrite	MG/KG	300.0	12	1	11/13/97	11/14/97	12	U	S

LEVEL V

OGDEN VALIDATED

Approved By: Cyndi Schwartz Date: 2/12/98

1S44/021397p

9011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF256
Lab Code: L9703846-016
Test Notes:

Basis: Dry

Orig Qual Rev Qual

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	13	
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/14/97	2.5	
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schuett Date: 2/12/98

IS44/021397p

9012

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF257
Lab Code: L9703846-017
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	29		
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/14/97	3.1		
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	U
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	U

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schmidt Date: 2/10/98

1544/021397p

9013

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF258
Lab Code: L9703846-018
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code Rev Qual
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	27		
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/14/97	55		
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	12		
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	U

LEVEL V

OGDEN VALIDATED

Approved By: Cydie Schuett Date: 2/12/98

1544/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/12/97
Sample Matrix:	Soil	**Date Received:**	11/12/97

Inorganic Parameters

Sample Name: RF262
Lab Code: L9703846-010
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Final Code Rev Qual
pH	pH UNITS	9045	0.1	1	11/13/97	11/13/97	10.8		
Chloride	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	U
Fluoride	MG/KG	340.2	2.0	1	11/13/97	11/14/97	5.5		
Nitrate as Nitrate	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	U
Nitrite	MG/KG	300.0	11	1	11/13/97	11/14/97	11	U	U

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

9009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Inorganic Parameters

Sample Name: WBLK971113-1
Lab Code: L971113-MB
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Chloride	MG/KG	300.0	10	1	11/13/97	11/14/97	10	U
Fluoride	MG/KG	340.2	1.0	1	11/13/97	11/18/97	1.0	U
Nitrate as Nitrate	MG/KG	300.0	10	1	11/13/97	11/14/97	10	U
Nitrite	MG/KG	300.0	10	1	11/13/97	11/14/97	10	U

Revised
1/14/99 AZ

Approved By: _____ Date: 9/25/98

1S44/021397p

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

0

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Project Manager: D. Hambrick
Analysis/Method: General Mineral
No. of Samples: 11
Date Completed: June 26, 1998
Reviewer: K. Chapman
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994),* Columbia Analytical Services SOP 96-WET-PHS-00 (Revision 1, 7/26/96), Columbia Analytical Services SOP 96-WET-IC-00M (Revision 1, 7/26/96), Columbia Analytical Services SOP 96-WET-FISE-00M (Revision 1, 7/26/96), and Columbia Analytical Services SOP 96-WET-Cr6S-00M (Revision 1, 7/26/96)
SDG: L9703679
Samples Reviewed: RF713, RF714, RF715, RF716, RF717, RF718, RF719, RF720, RF728, RF731, and RF732

EPA Level V- General Minerals Assessment Form

	Problems	Qualifications
1. Sample Management	Holding time exceeded for pH analysis.	All site sample pH results qualified as estimated, "J."
2. Method Blanks	Acceptable as reviewed.	None
3. LCS/BS	Acceptable as reviewed.	None
4. Duplicates Performed on samples RF713 and RF728	Acceptable as reviewed. (pH only)	None
5. MS/MSDs Performed on samples RF715	Acceptable as reviewed.	None
6. Field QC Samples ER: RF810 and RF724 FB: RF848	No detects were reported for the field QC samples.	None

7. Other	None	None
8. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Inorganic Parameters

Sample Name: RF713
Lab Code: L9703679-001 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	10/29/97	10/29/97	7.4		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 1/26/98
1S44/021397p

7001

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Inorganic Parameters

Sample Name: RF714
Lab Code: L9703679-002 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	10/29/97	10/29/97	6.7		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 1/26/98

1S44/021397

7002

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/18/97
Sample Matrix:	Sludge	**Date Received:**	10/28/97

Inorganic Parameters

Sample Name: RF715
Lab Code: L9703679-003
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code / Rev Qual
pH	pH UNITS	9045	0.1	1	10/29/97	10/29/97	7.2		H
Chloride	MG/KG	300.0	39	1	10/30/97	10/30/97	380		
Fluoride	MG/KG	340.2	4.0	1	10/30/97	10/30/97	24		
Nitrate as Nitrate	MG/KG	300.0	39	1	10/30/97	10/30/97	39	U	U
Nitrite as Nitrite	MG/KG	300.0	39	1	10/30/97	10/30/97	39	U	U

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 11/26/98

IS44021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Sludge	**Date Received:**	10/28/97

Inorganic Parameters

Sample Name: RF716
Lab Code: L9703679-004 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Chromium, Hexavalent	MG/KG	7196	0.5	1	10/29/97	10/30/97	0.5	U	U	

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 1/26/98
1544-021397p

7004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Inorganic Parameters

Sample Name: RF717
Lab Code: L9703679-005
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code Rev Qual
pH	pH UNITS	9045	0.1	1	10/29/97	10/29/97	7.0		J H
Chromium, Hexavalent	MG/KG	7196	1.0	5	10/29/97	10/30/97	1.0	U	U

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schuett Date: 11/26/98

IS44/021397p

7005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Inorganic Parameters

Sample Name: RF718
Lab Code: L9703679-006 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	10/29/97	10/29/97	7.0		J	H
Chromium, Hexavalent	MG/KG	7196	0.5	5	10/29/97	10/30/97	0.5	U	U	

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 1/26/98

1S44/021597p

7006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Inorganic Parameters

Sample Name: RF719
Lab Code: L9703679-007
Test Notes:

Basis: Dry

Qual Code
Rev Anal

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes		
pH	pH UNITS	9045	0.1	1	10/29/97	10/29/97	7.1		H	
Chromium, Hexavalent	MG/KG	7196	0.2	2	10/29/97	10/30/97	0.2	U	N	

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schuyt Date: 11/6/97

IS44/021397p

7007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Inorganic Parameters

Sample Name: RF720
Lab Code: L9703679-008 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
pH	pH UNITS	9045	0.1	1	10/29/97	10/29/97	6.3	
Chromium, Hexavalent	MG/KG	7196	1.0	5	10/29-30/9	10/30/97	1.0	U

Qual Code
Rev Qual
Q/75
H

OGDEN VALIDATED

KEC
6/30/98

LEVEL V

Approved By: Eydie Schwartz Date: 1/26/98

1S44 021397p

7008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/29/97
Sample Matrix:	Sludge	**Date Received:**	10/29/97

Inorganic Parameters

Sample Name: RF728
Lab Code: L9703679-017 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	10/30/97	10/30/97	7.9		J	H
Chloride	MG/KG	300.0	13	1	10/30/97	10/30/97	29			
Fluoride	MG/KG	300.0	2.0	1	10/30/97	10/30/97	2.0	U	U	
Nitrate as Nitrate	MG/KG	300.0	13	1	10/30/97	10/30/97	13	U	U	
Nitrite as Nitrite	MG/KG	300.0	13	1	10/30/97	10/30/97	13	U	U	

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 1/26/98

1S44/021397p

7009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/29/97
Sample Matrix:	Soil	**Date Received:**	10/29/97

Inorganic Parameters

Sample Name: RF731
Lab Code: L9703679-019
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
pH	pH UNITS	9045	0.1	1	10/30/97	10/30/97	6.9		J	H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 1/26/98

7010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/29/97
Sample Matrix:	Soil	**Date Received:**	10/29/97

Inorganic Parameters

Sample Name: RF732
Lab Code: L9703679-020
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	PQL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Qual Code Rev Qual
pH	pH UNITS	9045	0.1	1	10/30/97	10/30/97	7.7		J H

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 11/26/98

1S44/021397p

7011

03679WET SA2 - Sample (3) 12/8/97

Page No

OGDEN[1]

DATA VALIDATION REPORT

PROJECT
Rocketdyne, SSFL RFI Program

ANALYSIS: METALS

SAMPLE DELIVERY GROUP: L9801064

Prepared by

Ogden—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Project:	Rocketdyne, SSFL RFI Program
SDG#:	L9801064
Project Manager:	D. Hambrick
Matrix:	Soil
Analysis:	Metals
QC Level:	IV
No. of Samples:	8
No. of Reanalyses/Dilutions:	0
Reviewer:	K. Okonzak
Date of Review:	September 17, 1998

The samples listed in Table 1 were validated based on the guidelines outlined in the Ogden *Project Procedures Manual,* data validation SOP for metals and cyanide (DVP-5, Rev. 1), *Columbia Analytical Services, Inc. - Canoga Park, Determination of Trace Elements by Inductively Coupled Plasma, Optical Emission Spectrometry SOP ICP-OES, Revision 1.0* (8/96). *Columbia Analytical Services, Inc. - Canoga Park, Graphite Furnace Atomic Absorption Spectrometry SOP GFA-GFAA, Revision 1.0* (8/96). *Columbia Analytical Services, Inc. - Canoga Park, Mercury in Solid or Semisolid Waste SOP MET-7471, Revision 2.0* (3/98). *USEPA SW-846 Methods 6010A, 7000A* (11/90)*, and 7470A* (09/94), and the *National Functional Guidelines for Inorganic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on the Sample Result Forms with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
BSBS30S01	RS737	L9801064-002	soil	6010/7000
BSBS31S01	RS738	L9801064-003	soil	6010/7000
EVBS11S01	RS740	L9801064-005	soil	6010/7000
EVBS30S01	RS741	L9801064-006	soil	6010/7000
EVBS30D01	RS742	L9801064-007	soil	6010/7000
APBS03S01	RS744	L9801064-008	soil	6010/7000
NCBS11S02	RS763	L9801064-002	soil	6010/7000
NCBS12S01	RS764	L9801064-012	soil	6010/7000

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

Samples were collected by Ogden personnel, placed in coolers containing ice, and hand delivered to the mobil Columbia laboratory onsite. If the required sample analyses were not performed by the mobil laboratory, the samples were transported by Columbia personnel to the fixed laboratory site. The temperature recorded on the COC for some of the samples was 7°C, which is above the 4°C 2°C control limit. The cooler temperature was not recorded on the COC for samples RS763 and RS764. Due to the nonvolatile nature of the analytes, no qualifications were required due to cooler temperatures. No custody seals were present on the coolers, but as no shipping was involved in the transportation of the samples, this was acceptable. No sample preservation or handling problems were noted. No sample qualifications were required.

2.1.2 Chain of Custody

The COCs in the package were legible, were signed by the field and laboratory personnel, and accounted for the analyses presented in the data package. The sample condition questions were answered on the COCs for all samples with the exception of samples RS763 and RS764. Per L. Arrasmith's facsimile of 4/09/98, sample RS744 was taken off hold for metals and analyzed for barium and silver only. Sample receiving checklists were not included in the data package submission. No sample qualifications were required.

2.1.3 Holding Times

The dates of collection recorded on the COCs and the dates of analysis recorded in the raw data documented that all sample analyses were performed within the specified holding times of 6 months for metals (except mercury) and 28 days for mercury. No qualifications were assigned to sample results.

2.2 CALIBRATION

All ICV and CCV results provided on the ICV and CCV Summary QA/QC Report Forms and in the raw data showed acceptable %Rs of 5% for the ICV and 10% for the CCVs for the ICP analysis, and 10% for the ICV and 20% for the CCVs for the GFAA and mercury analyses. These control limits were taken from the laboratory SOPs for the metals analyses. No qualifications were required based on the calibration information.

2.3 BLANKS

There were no detects reported in the calibration and method blanks associated with the samples in this SDG with the exception of the method blank for zinc which had a detect at 0.015 mg/L in solution. The laboratory states a PQL of 0.01 mg/L for zinc. The method blank reporting form incorrectly reported zinc as a nondetect at the PQL, and the detect was found during the raw data review. No sample qualifications were required for the zinc contamination due to zinc found in the samples at greater than 10 the method blank level. All other blank results were nondetected at practical quantitation levels, PQLs, established by the laboratory. For some analytes, the PQLs listed on the ICB and CCB Summary QA/QC Report were not the actual PQLs used by the laboratory for reporting the blank and the site sample results for this project. The correct PQLS were identified in a facsimile received at Ogden - Denver on 7/22/98 from G. Pechter, Columbia Analytical Services - Canoga Park. By reviewing the raw data, the validator confirmed that the reported method and calibration blank results were nondetects at the confirmed PQLs. No sample result qualifications were required.

2.4 ICP INTERFERENCE CHECK SAMPLE (ICP ICS)

The laboratory analyzed the ICSA solution, interferents only, at the beginning and at the end of the ICP analysis. The ICSAB solution, target analytes mixed with the interferents, was analyzed only at the beginning of the ICP analysis. The results for the ICS analyses reported on the ICP Interference Check Sample QA/QC Report Form and in the raw data were within the established control limits of 20%, and no qualifications were required. For both the ICSA and ICSAB analyses, the laboratory reported only the interferant results on the QA/QC Report Form. The validator reviewed the raw data for the reported analytes to determine the ICSA/ICSAB results. The lead results for ICSA1 and ICSA2 were above the 0.05 mg/L laboratory PQL for lead at 0.0833 mg/L and 0.0705 mg/L, respectively. The zinc result for ICSA2 was above the 0.01 mg/L zinc PQL at 0.0123 mg/L. The ICSA detects for these analytes indicate that for samples with levels of interferents near the level of interferents found in the ICSA solution, there may be uncorrected positive matrix interference affecting the site sample lead and zinc results. No sample qualifications were applied.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Aqueous LCS samples were analyzed with this SDG. All of the LCS results reported on the LCS Summary Metals QA/QC Report Form and in the raw data were within the laboratory's control limits of 75-125%R, and no qualifications were required.

2.6 LABORATORY DUPLICATES

There were no laboratory duplicate analyses performed for the samples in this data package; therefore, the samples were not assessed for this criteria.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The matrix spike/matrix spike duplicate analysis was performed on soil sample RS741. The matrix

spike control limit is 75-125 percent; this control limit does not apply if the sample concentration exceeds the spike concentration by a factor of 4 or more. The matrix spike recoveries for soil sample RS741 were within control limits with the exception of antimony, which had spike recoveries of 41% and 50%, respectively for the MS/MSD analyses. The precision between the spiked aliquots was also high with a 21% RPD. The antimony nondetects for samples RS741 and RS742 were qualified "UJ." The nondetects were not qualified for the spike precision. No further qualifications were required.

Analytes that were found to be not detected at the laboratory PQLs were reported incorrectly on the MS/MSD reporting form. These analytes were reported on the form as detects at the PQL. To validate the spike recoveries reported on this form, the reported sample results for sample RS741 were compared to the sample results reported on the Form I, and the validator changed the sample results on the MS/MSD form to match those reported on the Form I.

2.8 FURNACE ATOMIC ABSORPTION QC

The arsenic, selenium, and thallium analyses were performed by graphite furnace atomic absorption, GFAA. For each of the GFAA analytes, the laboratory performed a post digestion spike on sample RS742 to monitor matrix interferences. The post digestion spike recoveries for arsenic and selenium were within the 85-115%R control limit, and no sample qualifications were required. The thallium spike recovery was high at 118%. SW846 Method 7000A, Atomic Absorption Methods, calls for all samples in a batch to be determined by method of standard additions if the post digestion spike recovery is less than 85% or greater than 115%; therefore, the thallium nondetects for samples RS741 and RS742 were qualified "UJ." No further qualifications were required.

2.9 ICP SERIAL DILUTION

The ICP 5 serial dilution analysis was performed on soil sample RS742. There was no form in the report for the serial dilution results; therefore, the validator used the serial dilution raw data to calculate the %Ds for each of the ICP analytes. All of the analytes that were sufficiently high, a factor of 10 above the practical quantitation limit after dilution, agreed within 10%D of the original sample analysis, with the exception of aluminum, barium, and zinc which had RPDs of 14.1%, 12.6%, and 16.7%, respectively. The aluminum, barium, and zinc detects in the site samples were qualified "J." No further qualifications were required.

2.10 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in this data package.

The sample results verified against the instrument output were found to be acceptable for the ICAP, GFAA, and CVAA analyses, with the exception of the mercury result for sample RS742, which was reported as a nondetect at 0.3 mg/kg. The correct result for this analysis is a mercury detect at 0.3 mg/kg. The mercury value was corrected on the RS742 sample result reporting form.

The laboratory reports the soil sample PQLs to the whole number on the site sample reporting forms. Some of the dry weight PQLs are being rounded down to the nearest whole number. The PQLs should consistently be rounded up so that a sample result is not reported as a nondetect at a PQL which is lower than that which can be seen by the lab in that particular sample matrix. For example, for sample RS742, (lab ID L9801064-007), the silver result is reported as nondetected at 1 mg/kg dry weight. The actual dry weight silver PQL for that sample is 1.3 mg/kg; therefore, the silver result should be reported as a nondetect at 2 mg/kg dry weight. No sample qualifications were applied for the PQL rounding.

The digestions for the ICP analysis were performed at approximately a 25 dilution, and a 4 analytical dilution was then performed on the sample digestates at the time of analysis. The GFAA digestions were performed at approximately a 50 dilution, and a 20 analytical dilution was then performed on each digestate at the time of analysis. These analytical dilutions are routinely performed for all sample analyses run at the laboratory and were not performed just for the Ogden samples. No sample qualifications were required.

2.11 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.11.1 Field Blanks and Equipment Rinsates

Sample RS750 was identified as the equipment rinsate and sample RS682 was identified as the field blank applicable to the site samples in this data package. There were some detects in the field QC samples but none at high enough levels to require qualifications to the site samples.

2.11.2 Field Duplicates

Samples RS741/RS742 were identified as the field duplicate pair associated with the samples in this package. Qualifications are not assigned to sample results on the basis of field duplicate pairs; however, RPDs are calculated between results for these samples. If RPDs are greater than 50% for waters or 100% for soils, the RPDs and affected analytes are noted in the data validation report. Mercury was reported at 2.5 mg/kg in sample RS741 and at 0.3 mg/kg in sample RS742, for an RPD of 157%. All other detects were in common with RPDs below 100%.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/8/98
Sample Matrix:	Soil	**Date Received:**	4/8/98

Metals

Sample Name:	RS737	Units:	MG/KG
Lab Code:	L9801064-002	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Lead	EPA 3050	6010	5	1	4/22/98	4/23/98	37			

OGDEN VALIDATED

LEVEL IV

Approved By: Eydie Schwartz Date: 5/20/98

IS44/021397p

5002

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/8/98
Sample Matrix:	Soil	**Date Received:**	4/8/98

Metals

Sample Name:	RS737	Units:	MG/KG
Lab Code:	L9801064-002	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Mercury	EPA 7471	7471	0.2	1	4/16/98	4/16/98	0.2	U	U	K

11/9/98

OGDEN VALIDATED

LEVEL IV

Approved By: Cydie Schuurs Date: 5/20/98

1S44/021397p

5003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/8/98
Sample Matrix:	Soil	**Date Received:**	4/8/98

Metals

Sample Name:	RS738	Units:	MG/KG
Lab Code:	L9801064-003	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Lead	EPA 3050	6010	6	1	4/22/98	4/23/98	33			

OGDEN VALIDATED

LEVEL IV

Approved By: Elydie Schwartz Date: 5/20/98

1S44/021397p

5004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/8/98
Sample Matrix:	Soil	**Date Received:**	4/8/98

Metals

Sample Name:	RS738	Units:	MG/KG
Lab Code:	L9801064-003	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Mercury	EPA 7471	7471	0.2	1	4/16/98	4/16/98	0.2	U	u	K

11/9/98

OGDEN VALIDATED

LEVEL IV

Approved By: Eydie Schwartz Date: 5/20/98

1S44/021397p

5005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/8/98
Sample Matrix:	Soil	**Date Received:**	4/8/98

Metals

Sample Name:	RS740	Units:	MG/KG
Lab Code:	L9801064-005	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Mercury	EPA 7471	7471	0.2	1	4/16/98	4/16/98	0.2	U	u	UC

11/9/98

OGDEN VALIDATED

LEVEL IV

Approved By: Cydie Schwartz Date: 5/20/98

1S44/021397p

5006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/8/98
Sample Matrix:	Soil	**Date Received:**	4/8/98

Metals

Sample Name:	RS741	Units:	MG/KG
Lab Code:	L9801064-006	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Aluminum	EPA 3050	6010	13	1	4/22/98	4/23/98	10000		J	A
Antimony	EPA 3050	6010	13	1	4/22/98	4/23/98	13	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	4/15/98	4/17/98	6	U	U	K
Barium	EPA 3050	6010	1	1	4/22/98	4/23/98	100		J	A
Beryllium	EPA 3050	6010	0.6	1	4/22/98	4/23/98	0.6	U	U	K
Boron	EPA 3050	6010	13	1	4/22/98	4/23/98	13	U	U	K
Cadmium	EPA 3050	6010	1	1	4/22/98	4/23/98	1	U	U	K
Chromium	EPA 3050	6010	3	1	4/22/98	4/23/98	20			
Cobalt	EPA 3050	6010	3	1	4/22/98	4/23/98	7			
Copper	EPA 3050	6010	3	1	4/22/98	4/23/98	15			
Lead	EPA 3050	6010	6	1	4/22/98	4/23/98	45			
Mercury	EPA 7471	7471	0.3	5	4/16/98	4/16/98	2.5			
Molybdenum	EPA 3050	6010	13	1	4/22/98	4/23/98	13	U	U	K
Nickel	EPA 3050	6010	6	1	4/22/98	4/23/98	13			
Selenium	EPA 3050	7740	6	1	4/15/98	4/17/98	6	U	U	K
Silver	EPA 3050	6010	1	1	4/22/98	4/23/98	1	U	U	K
Thallium	EPA 3050	7841	6	1	4/15/98	4/17/98	6	U	UJ	P
Vanadium	EPA 3050	6010	2	1	4/22/98	4/23/98	35			
Zinc	EPA 3050	6010	1	1	4/22/98	4/23/98	300		J	A

KWR 11/10/98

[illegible] VALIDATED

LEVEL IV

Approved By: Eydie Schwartz Date: 5/20/98

1S44/021397p

5007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/8/98
Sample Matrix:	Soil	**Date Received:**	4/8/98

Metals

Sample Name:	RS742	Units:	MG/KG
Lab Code:	L9801064-007	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Cod
Aluminum	EPA 3050	6010	13	1	4/22/98	4/23/98	10000		J	A
Antimony	EPA 3050	6010	13	1	4/22/98	4/23/98	13	U	uJ	Q
Arsenic	EPA 3050	7060	7	1	4/15/98	4/17/98	7	U	u	
Barium	EPA 3050	6010	1	1	4/22/98	4/23/98	110		J	A
Beryllium	EPA 3050	6010	0.7	1	4/22/98	4/23/98	0.7	U	u	
Boron	EPA 3050	6010	13	1	4/22/98	4/23/98	13	U	u	
Cadmium	EPA 3050	6010	1	1	4/22/98	4/23/98	1	U	u	
Chromium	EPA 3050	6010	3	1	4/22/98	4/23/98	20			
Cobalt	EPA 3050	6010	3	1	4/22/98	4/23/98	7			
Copper	EPA 3050	6010	3	1	4/22/98	4/23/98	16			
Lead	EPA 3050	6010	7	1	4/22/98	4/23/98	39			
Mercury	EPA 7471	7471	0.3	1	4/16/98	4/16/98	0.3	~~U~~	~~u~~	~~S~~, ~~*~~ *11
Molybdenum	EPA 3050	6010	13	1	4/22/98	4/23/98	13	U	u	
Nickel	EPA 3050	6010	7	1	4/22/98	4/23/98	13			
Selenium	EPA 3050	7740	7	1	4/15/98	4/17/98	7	U	u	
Silver	EPA 3050	6010	1	1	4/22/98	4/23/98	1	U	u	
Thallium	EPA 3050	7841	7	1	4/15/98	4/17/98	7	U	uJ	P
Vanadium	EPA 3050	6010	2	1	4/22/98	4/23/98	34			
Zinc	EPA 3050	6010	1	1	4/22/98	4/23/98	290		J	A

KWL
9/22/98

OGDEN VALIDATED

LEVEL IV

Approved By: [signature] Date: 9/8/98

1S44/021397p

5008R

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/8/98
Sample Matrix:	Sludge	**Date Received:**	4/8/98

Metals

Sample Name:	RS744	Units:	MG/KG
Lab Code:	L9801064-008	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Cod
Barium	EPA 3050	6010	1	1	4/22/98	4/23/98	97		J	A
Silver	EPA 3050	6010	1	1	4/22/98	4/23/98	2			

[illegible] VALIDATED

LEVEL IV

Approved By: Eydie Schwartz Date: 5/20/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/9/98
Sample Matrix:	Soil	**Date Received:**	4/9/98

Metals

Sample Name:	RS763	Units:	MG/KG
Lab Code:	L9801064-011	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Cod
Lead	EPA 3050	6010	6	1	4/22/98	4/23/98	10			

DATA VALIDATED

LEVEL IV

Approved By: Eydie Schuurs Date: 5/20/98

1S44/021397p

5010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/9/98
Sample Matrix:	Soil	**Date Received:**	4/9/98

Metals

Sample Name:	RS763	Units:	MG/KG
Lab Code:	L9801064-011	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Cod
Zinc	EPA 3050	6010	1	1	4/22/98	4/23/98	43		J	A

OGDEN VALIDATED

LEVEL IV

Approved By: Eydie Schuett Date: 5/20/98

1S44/021397p

5011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9801064
Project:	Rocketdyne/313150002	**Date Collected:**	4/9/98
Sample Matrix:	Sludge	**Date Received:**	4/9/98

Metals

Sample Name:	RS764	Units:	MG/KG
Lab Code:	L9801064-012	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Cod
Barium	EPA 3050	6010	1	1	4/22/98	4/23/98	34		J	A
Lead	EPA 3050	6010	6	1	4/22/98	4/23/98	23			
Silver	EPA 3050	6010	1	1	4/22/98	4/23/98	1	U	U	
Zinc	EPA 3050	6010	1	1	4/22/98	4/23/98	86		J	A

DATA VALIDATED

LEVEL IV

Approved By: Eydie Schuyt Date: 5/20/98

1S44/021397p

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: 6010/7000
No. of Samples: 9
Date Completed: November 2, 1998
Reviewer: K. Okonzak-Lowry
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994), Columbia Analytical Services, Inc. - Canoga Park, Determination of Trace Elements by Inductively Coupled Plasma, Optical Emission Spectrometry SOP ICP-OES, Revision 1.0* (8/96), *Columbia Analytical Services, Inc. - Canoga Park, Graphite Furnace Atomic Absorption Spectrometry SOP GFA-GFAA, Revision 1.0* (8/96), *Columbia Analytical Services, Inc. - Canoga Park, Mercury in Solid or Semisolid Waste SOP MET-7471, Revision 2.0* (3/98).
SDG: L9800209
Samples Reviewed: RS667, RS669, RS672, RS673, RS674, RS675, RS676, RS679, RS680

EPA Level V- Metals Assessment Form

	Problems	Qualifications
1. Sample Management	The cooler temperatures were noted at 6 and 7°C; the specified control limits are 4°C 2°C. Sample condition questions were answered on the COCs. Samples were collected by Ogden personnel, placed in coolers containing ice, and hand delivered to the laboratory; therefore, the cooler temperatures did not have time to equilibrate. Some corrections to the COCs were made with multiple cross outs instead of single lines. Some corrections were initialled but not individually dated. No sample preservation or handling problems were noted.	Due to the nonvolatile nature of the analytes, the sample results were not qualified due to the high cooler temperature.
2. Method Blanks	None. All method blank results were below laboratory determined PQLs.	None
3. LCS	The LCS results were all within the	None

	Problems	Qualifications
	laboratory established control limits of 75-125%R.	
4. Duplicates	None performed.	None
5. MS/MSDs Performed on soil sample RS676	Antimony: MS at 47%R/MSD at 55%R.	The antimony nondetects for the samples were qualified "UJ."
6. Furnace Atomic Absorption QC Post digestion spikes performed on sample RS672	The post digestion spike recoveries for the arsenic, selenium, and thallium analyses were within the 85-115%R control limit. The validator determined the post spike results by reviewing the GFAA raw data.	None
7. ICP Serial Dilution Performed on sample RS674	All serial dilution results greater than 10 the PQL were within the 10%D control limit with the exception of aluminum barium and zinc which had %Ds of 16.0%, 13.9%, and 22.2%, respectively. There was no ICP serial dilution form in the report. The validator determined the serial dilution results by reviewing the ICP raw data.	The aluminum, barium, and zinc detects in the samples were qualified "J."
8. Field QC Samples ER sample: RS665 FB sample: RS682 Field Duplicates: None identified for this SDG	There were detects in the field QC samples, but none at high enough levels to require qualifications to the site sample results.	None
9. Other	None	None
10. Comments	The zinc detect for sample RS667 was recalculated by the laboratory, and a corrected Form I for this sample was submitted for validation.	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/26/98
Sample Matrix:	Soil	**Date Received:**	1/26/98

Metals

Sample Name:	RS667	Units:	MG/KG
Lab Code:	L9800209-007	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Lead	EPA 3050	6010	6	1	2/25/98	2/26/98	20			

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schwartz Date: 3/13/98

1S44/021397p

9002

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/26/98
Sample Matrix:	Soil	**Date Received:**	1/26/98

Metals

Sample Name:	RS667	Units:	MG/KG
Lab Code:	L9800209-007	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Zinc	EPA 3050	6010	1	1	2/25/98	2/26/98	110		J	A

OGDEN VALIDATED

LEVEL V

Approved By: _____ Date: 9/14/98

1S14/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS669	Units:	MG/KG
Lab Code:	L9800209-009	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Lead	EPA 3050	6010	6	1	2/25/98	2/26/98	9			

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 3/13/98

IS44/021397p

9004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS669	Units:	MG/KG
Lab Code:	L9800209-009	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Silver	EPA 3050	6010	1	1	2/25/98	2/26/98	1	U	u	

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 3/13/98

1S44/021397p

9005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS672	Units:	MG/KG
Lab Code:	L9800209-012	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Aluminum	EPA 3050	6010	11	1	2/25/98	2/26/98	7700		J	A
Antimony	EPA 3050	6010	11	1	2/25/98	2/26/98	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	2/24/98	2/26/98	6	U	U	
Barium	EPA 3050	6010	1	1	2/25/98	2/26/98	51		J	A
Beryllium	EPA 3050	6010	0.6	1	2/25/98	2/26/98	0.6	U	U	
Boron	EPA 3050	6010	11	1	2/25/98	2/26/98	11	U	U	
Cadmium	EPA 3050	6010	1	1	2/25/98	2/26/98	1	U	U	
Chromium	EPA 3050	6010	2	1	2/25/98	2/26/98	12			
Cobalt	EPA 3050	6010	2	1	2/25/98	2/26/98	4			
Copper	EPA 3050	6010	2	1	2/25/98	2/26/98	6			
Lead	EPA 3050	6010	6	1	2/25/98	2/26/98	8			
Mercury	EPA 7471	7471	0.2	1	2/19/98	2/23/98	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	2/25/98	2/26/98	11	U	U	
Nickel	EPA 3050	6010	6	1	2/25/98	2/26/98	8			
Selenium	EPA 3050	7740	6	1	2/24/98	2/26/98	6	U	U	
Silver	EPA 3050	6010	1	1	2/25/98	2/26/98	1	U	U	
Thallium	EPA 3050	7841	6	1	2/24/98	2/25/98	6	U	U	
Vanadium	EPA 3050	6010	2	1	2/25/98	2/26/98	22			
Zinc	EPA 3050	6010	1	1	2/25/98	2/26/98	37		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schwartz Date: 3/13/98

1S44/021397p

9006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS673	Units:	MG/KG
Lab Code:	L9800209-013	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Aluminum	EPA 3050	6010	12	1	2/25/98	2/26/98	7200		J	A
Antimony	EPA 3050	6010	12	1	2/25/98	2/26/98	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	2/24/98	2/26/98	6			
Barium	EPA 3050	6010	1	1	2/25/98	2/26/98	56		J	A
Beryllium	EPA 3050	6010	0.6	1	2/25/98	2/26/98	0.6	U	U	
Boron	EPA 3050	6010	12	1	2/25/98	2/26/98	12	U	U	
Cadmium	EPA 3050	6010	1	1	2/25/98	2/26/98	1	U	U	
Chromium	EPA 3050	6010	2	1	2/25/98	2/26/98	12			
Cobalt	EPA 3050	6010	2	1	2/25/98	2/26/98	5			
Copper	EPA 3050	6010	2	1	2/25/98	2/26/98	6			
Lead	EPA 3050	6010	6	1	2/25/98	2/26/98	9			
Mercury	EPA 7471	7471	0.2	1	2/19/98	2/23/98	0.2	U	U	
Molybdenum	EPA 3050	6010	12	1	2/25/98	2/26/98	12	U	U	
Nickel	EPA 3050	6010	6	1	2/25/98	2/26/98	7			
Selenium	EPA 3050	7740	6	1	2/24/98	2/26/98	6	U	U	
Silver	EPA 3050	6010	1	1	2/25/98	2/26/98	1	U	U	
Thallium	EPA 3050	7841	6	1	2/24/98	2/25/98	6	U	U	
Vanadium	EPA 3050	6010	2	1	2/25/98	2/26/98	22			
Zinc	EPA 3050	6010	1	1	2/25/98	2/26/98	59		J	A

DATA VALIDATED

LEVEL V

Approved By: Cynthia Schwartz Date: 3/13/98

IS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS674	Units:	MG/KG
Lab Code:	L9800209-014	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Aluminum	EPA 3050	6010	11	1	2/25/98	2/26/98	5200		J	A
Antimony	EPA 3050	6010	11	1	2/25/98	2/26/98	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	2/24/98	2/26/98	5	U	U	
Barium	EPA 3050	6010	1	1	2/25/98	2/26/98	57		J	A
Beryllium	EPA 3050	6010	0.5	1	2/25/98	2/26/98	0.5	U	U	
Boron	EPA 3050	6010	11	1	2/25/98	2/26/98	11	U	U	
Cadmium	EPA 3050	6010	1	1	2/25/98	2/26/98	2			
Chromium	EPA 3050	6010	2	1	2/25/98	2/26/98	28			
Cobalt	EPA 3050	6010	2	1	2/25/98	2/26/98	4			
Copper	EPA 3050	6010	2	1	2/25/98	2/26/98	22			
Lead	EPA 3050	6010	5	1	2/25/98	2/26/98	25			
Mercury	EPA 7471	7471	0.2	2	2/19/98	2/23/98	0.8			
Molybdenum	EPA 3050	6010	11	1	2/25/98	2/26/98	11	U	U	
Nickel	EPA 3050	6010	5	1	2/25/98	2/26/98	24			
Selenium	EPA 3050	7740	5	1	2/24/98	2/26/98	5	U	U	
Silver	EPA 3050	6010	1	1	2/25/98	2/26/98	1	U	U	
Thallium	EPA 3050	7841	5	1	2/24/98	2/25/98	5	U	U	
Vanadium	EPA 3050	6010	2	1	2/25/98	2/26/98	19			
Zinc	EPA 3050	6010	1	1	2/25/98	2/26/98	120		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schmidt Date: 3/13/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS675	Units:	MG/KG
Lab Code:	L9800209-015	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Arsenic	EPA 3050	7060	6	1	2/24/98	2/26/98	6	U	U	

LEVEL V

Approved By: Cydia Schwartz Date: 3/13/98

1S44/021397p

9009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS675	Units:	MG/KG
Lab Code:	L9800209-015	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Lead	EPA 3050	6010	6	1	2/25/98	2/26/98	7			

ORDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 3/13/98

1S44/021397p

9010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Ogden Environmental
Project: Rocketdyne/313150002
Sample Matrix: Soil

Service Request: L9800209
Date Collected: 1/27/98
Date Received: 1/27/98

Metals

Sample Name: RS676
Lab Code: L9800209-016
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Aluminum	EPA 3050	6010	11	1	2/25/98	2/26/98	11000		J	A
Antimony	EPA 3050	6010	11	1	2/25/98	2/26/98	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	2/24/98	2/26/98	11			
Barium	EPA 3050	6010	1	1	2/25/98	2/26/98	54		J	A
Beryllium	EPA 3050	6010	0.6	1	2/25/98	2/26/98	0.6			
Boron	EPA 3050	6010	11	1	2/25/98	2/26/98	11	U	U	
Cadmium	EPA 3050	6010	1	1	2/25/98	2/26/98	1	U	U	
Chromium	EPA 3050	6010	2	1	2/25/98	2/26/98	18			
Cobalt	EPA 3050	6010	2	1	2/25/98	2/26/98	7			
Copper	EPA 3050	6010	2	1	2/25/98	2/26/98	8			
Lead	EPA 3050	6010	6	1	2/25/98	2/26/98	7			
Mercury	EPA 7471	7471	0.2	1	2/19/98	2/23/98	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	2/25/98	2/26/98	11	U	U	
Nickel	EPA 3050	6010	6	1	2/25/98	2/26/98	14			
Selenium	EPA 3050	7740	6	1	2/24/98	2/26/98	6	U	U	
Silver	EPA 3050	6010	1	1	2/25/98	2/26/98	1	U	U	
Thallium	EPA 3050	7841	6	1	2/24/98	2/25/98	6	U	U	
Vanadium	EPA 3050	6010	2	1	2/25/98	2/26/98	31			
Zinc	EPA 3050	6010	1	1	2/25/98	2/26/98	48		J	A

LEVEL V

Approved By: Cynthia Schwartz Date: 3/13/98

1S44/021397p

9011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS679	Units:	MG/KG
Lab Code:	L9800209-019	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Lead	EPA 3050	6010	6	1	2/25/98	2/26/98	15			

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schwartz Date: 3/13/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS679	Units:	MG/KG
Lab Code:	L9800209-019	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Barium	EPA 3050	6010	1	1	2/25/98	2/26/98	140		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schuett Date: 3/13/98

1S44/021397p

9013

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS679	Units:	MG/KG
Lab Code:	L9800209-019	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Silver	EPA 3050	6010	1	1	2/25/98	2/26/98	8			

OGDEN VALIDATION

LEVEL V

Approved By: Eydie Schwartz Date: 3/13/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Ogden Environmental
Project: Rocketdyne/313150002
Sample Matrix: Soil

Service Request: L9800209
Date Collected: 1/27/98
Date Received: 1/27/98

Metals

Sample Name: RS679
Lab Code: L9800209-019
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Anal	Qua Code
Zinc	EPA 3050	6010	1	1	2/25/98	2/26/98	160		J	A

LEVEL V

Approved By: Cydie Schwartz Date: 3/13/98

1S44/021397p

9015

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS680	Units:	MG/KG
Lab Code:	L9800209-020	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Lead	EPA 3050	6010	6	1	2/25/98	2/26/98	31			

LEVEL V

Approved By: Cydie Schwartz Date: 3/13/98

IS44/021397p

9016

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS680	Units:	MG/KG
Lab Code:	L9800209-020	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Barium	EPA 3050	6010	1	1	2/25/98	2/26/98	160		J	A

LEVEL V

Approved By: Eydie Schmidt Date: 3/13/98

1S44/021397p

9017

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS680	Units:	MG/KG
Lab Code:	L9800209-020	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Silver	EPA 3050	6010	1	1	2/25/98	2/26/98	5			

LEVEL V

Approved By: Cydie Schwarz Date: 3/13/98

1S44/021397p

9018

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800209
Project:	Rocketdyne/313150002	**Date Collected:**	1/27/98
Sample Matrix:	Soil	**Date Received:**	1/27/98

Metals

Sample Name:	RS680	Units:	MG/KG
Lab Code:	L9800209-020	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Zinc	EPA 3050	6010	1	1	2/25/98	2/26/98	240		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Schwartz Date: 3/13/98

IS44/021397p

9019

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: 6010/7000
No. of Samples:2
Date Completed: November 20, 1998
Reviewer: A.Lang
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994), Columbia Analytical Services, Inc. - Canoga Park, Determination of Trace Elements by Inductively Coupled Plasma, Optical Emission Spectrometry SOP ICP-OES, Revision 1.0* (8/96), *Columbia Analytical Services, Inc. - Canoga Park, Graphite Furnace Atomic Absorption Spectrometry SOP GFA-GFAA, Revision 1.0* (8/96), *Columbia Analytical Services, Inc. - Canoga Park, Mercury in Solid or Semisolid Waste SOP MET-7471, Revision 2.0* (3/98).
SDG: L9800073
Samples Reviewed: RS541, RS551

EPA Level V- Metals Assessment Form

	Problems	Qualifications
1. Sample Management	The cooler temperature was noted at 9°C; the specified control limits are 4°C 2°C. Sample condition questions were answered on the COCs. Samples were collected by Ogden personnel, placed in coolers containing ice, and hand delivered to the laboratory; therefore, the cooler temperatures did not have time to equilibrate. Per a facismile from L. Arrasmith-Ogden, dated 1/12/98, samples RS541 and RS551 were taken off hold for metals analyses. No sample preservation or handling problems were noted. The 28 day holding time for mercury was exceeded for site sample RS551.	Due to the nonvolatile nature of the analytes, the sample results were not qualified due to the high cooler temperature. The nondetect for mercury for sample RS551 was qualified "UJ."
2. Method Blanks	None. All method blank results were below laboratory determined PQLs.	None

	Problems	Qualifications
3. LCS	The LCS results were all within the laboratory established control limits of 75-125%R.	None
4. Duplicates	None performed.	None
5. MS/MSDs Performed on soil sample RS551	Antimony: MS at 28%R/MSD at 45%R. Arsenic: RPD at 25%R for MS/MSD.	The antimony nondetect for sample RS551 was qualified "UJ." Since one of the spiked aliquots had a %R above 30%, the antimony nondetect for RS551 was not rejected. None
6. Furnace Atomic Absorption QC The GFAA post digestion spikes analyzed with the samples in this SDG were performed on samples for a client other than Rocketdyne.	The arsenic, selenium and thallium GFAA results for the samples in this SDG have no associated GFAA post digestion spikes to monitor possible matrix interferences.	None. The arsenic, selenium and thallium sample results could not be validated for the possibility of matrix interferences. Unknow bias to the GFAA results may exist.
ICP Serial Dilution Performed on sample RS541	All serial dilution results greater than 10 the PQL were within the 10%D control limit. There was no ICP serial dilution form in the report. The validator determined the serial dilution results by reviewing the ICP raw data.	None
8. Field QC Samples ER samples: RS025 FB sample: RS682 Field Duplicates: None identified for this SDG	Metals analysis was not requested on the equipment rinsate RS025. There were no detects in the field blank RS682.	The metals results could not be validated for equipment rinsate contamination.
9. Other	None	None
10. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800073
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS541	Units:	MG/KG
Lab Code:	L9800073-001	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes
Barium	EPA 3050	6010	1	1	1/14/98	1/15/98	100	
Lead	EPA 3050	6010	6	1	1/14/98	1/15/98	10	
Silver	EPA 3050	6010	1	1	1/14/98	1/15/98	2	

OGDEN VALIDATED

LEVEL V

Approved By: _____ Date: 3/10/98

IS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9800073
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS551	Units:	MG/KG
Lab Code:	L9800073-002	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Run Qual	Lab Qual
Antimony	EPA 3050	6010	11	1	1/14/98	1/15/98	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	1/13/98	1/13/98	6	U	U	
Barium	EPA 3050	6010	1	1	1/14/98	1/15/98	91			
Beryllium	EPA 3050	6010	0.6	1	1/14/98	1/15/98	0.6			
Cadmium	EPA 3050	6010	1	1	1/14/98	1/15/98	1	U	U	
Chromium	EPA 3050	6010	2	1	1/14/98	1/15/98	19			
Cobalt	EPA 3050	6010	2	1	1/14/98	1/15/98	9			
Copper	EPA 3050	6010	2	1	1/14/98	1/15/98	8			
Lead	EPA 3050	6010	6	1	1/14/98	1/15/98	9			
Mercury	METHOD	7471	0.2	1	1/13/98	1/13/98	0.2	U	UJ	H
Molybdenum	EPA 3050	6010	11	1	1/14/98	1/15/98	11	U	U	
Nickel	EPA 3050	6010	6	1	1/14/98	1/15/98	12			
Selenium	EPA 3050	7740	6	1	1/13/98	1/13/98	6	U	U	
Silver	EPA 3050	6010	1	1	1/14/98	1/15/98	1	U	U	
Thallium	EPA 3050	7841	6	1	1/13/98	1/13/98	6	U	U	
Vanadium	EPA 3050	6010	2	1	1/14/98	1/15/98	37			
Zinc	EPA 3050	6010	1	1	1/14/98	1/15/98	49			

OGDEN VALIDATED

LEVEL V

Approved By: Eyl. Schmidt Date: 3/10/98

1S44/021397p

1003

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: 6010/7000
No. of Samples: 14
Date Completed: November 11, 1998
Reviewer: A. Lang
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994), Columbia Analytical Services, Inc. - Canoga Park, Determination of Trace Elements by Inductively Coupled Plasma, Optical Emission Spectrometry SOP ICP-OES, Revision 1.0* (8/96), *Columbia Analytical Services, Inc. - Canoga Park, Graphite Furnace Atomic Absorption Spectrometry SOP GFA-GFAA, Revision 1.0* (8/96), *Columbia Analytical Services, Inc. - Canoga Park, Mercury in Solid or Semisolid Waste SOP MET-7471, Revision 2.0* (3/98).
SDG: L9704259
Samples Reviewed: RS540, RS542, RS543, RS544, RS545, RS546, RS547, RS548, RS549, RS550, RS06, RS07, RS08, RS03

EPA Level V- Metals Assessment Form

	Problems	Qualifications
11. Sample Management	The cooler temperatures were noted at 9°C; the specified control limits are 4°C 2°C. Sample condition questions were answered on the COCs. Samples were collected by Ogden personnel, placed in coolers containing ice, and hand delivered to the laboratory; therefore, the cooler temperatures did not have time to equilibrate. No sample preservation or handling problems were noted. According to a memo, dated 12/02/02, from Montgomery Watson, the EPA IDs for four sample in this SDG were changed from RS003, RS006, RS007, and RS008 to RS03, RS06, RS07, and RS08, respectively.	Due to the nonvolatile nature of the analytes, the sample results were not qualified due to the high cooler temperatures.
2. Method Blanks	None. All method blank results were below laboratory determined PQLs.	None

	Problems	Qualifications
3. LCS	The LCS results were all within the laboratory established control limits of 75-125%R.	None
4. Duplicates	None performed.	None
5. MS/MSDs Performed on soil sample RS546	Antimony: MS at 32%R/MSD at 31%R	The antimony nondetects for the samples were qualified "UJ."
6. Furnace Atomic Absorption QC Post digestion spikes performed on sample RS540 and RS549	The post digestion spike recoveries for the arsenic, selenium, and thallium analyses were within the 85-115%R control limit. The validator determined the post spike results by reviewing the GFAA raw data.	None
7. ICP Serial Dilution Performed on sample RS544	All serial dilution results greater than 10 the PQL were within the 10%D control limit with the exception of barium which had a %D of 13.0% and zinc which had a %D of 17.9%. There was no ICP serial dilution form in the report. The validator determined the serial dilution results by reviewing the ICP raw data.	The barium and zinc detects in the samples were qualified "J."
8. Field QC Samples ER samples: RS516, RF020, and RF149 FB sample: RS682 Field Duplicates: None identified for this SDG	Zinc was detected in equipment rinsate RF020 at 0.16 mg/l.	Zinc in RS06, RS07 and RS08 is qualified "J," (see section 1).
9. Other	None	None
10. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS003	Units:	MG/KG
Lab Code:	L9704259-015	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	W	

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 3/9/98

1S44/021397p

9012

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS006	Units:	MG/KG
Lab Code:	L9704259-018	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Rev Qual Code
Antimony	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	UT	Q
Arsenic	EPA 3050	7060	6	1	12/18/97	12/18/97	14			
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	66		J	A
Beryllium	EPA 3050	6010	0.6	1	12/18/97	12/18/97	0.6			
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	21			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	6			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	9			
Lead	EPA 3050	6010	6	1	12/18/97	12/18/97	8			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/18/97	12/18/97	13			
Selenium	EPA 3050	7740	6	1	12/18/97	12/18/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/18/97	12/18/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	33			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	51		J	A,I

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schuraft Date: 3/9/98

1S44/021397p

9013

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS007	Units:	MG/KG
Lab Code:	L9704259-019	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes		
Antimony	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/18/97	12/18/97	6			
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	97		J	A
Beryllium	EPA 3050	6010	0.5	1	12/18/97	12/18/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	15			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	6			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	9			
Lead	EPA 3050	6010	5	1	12/18/97	12/18/97	9			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/18/97	12/18/97	12			
Selenium	EPA 3050	7740	5	1	12/18/97	12/18/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/18/97	12/18/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	30			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	46		J	A,F

OGDEN VALIDATED

LEVEL V

Approved By: _____ Date: 9/14/98

1S44/021397p

9014-R

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Ogden Environmental
Project: Rocketdyne/313150002
Sample Matrix: Soil

Service Request: L9704259
Date Collected: 12/11/97
Date Received: 12/12/97

Metals

Sample Name: RS008
Lab Code: L9704259-020
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes		
Antimony	EPA 3050	6010	12	1	12/18/97	12/18/97	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/18/97	12/18/97	9			
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	71		J	A
Beryllium	EPA 3050	6010	0.6	1	12/18/97	12/18/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	17			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	6			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	8			
Lead	EPA 3050	6010	6	1	12/18/97	12/18/97	7			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	12	1	12/18/97	12/18/97	12	U	U	
Nickel	EPA 3050	6010	6	1	12/18/97	12/18/97	11			
Selenium	EPA 3050	7740	6	1	12/18/97	12/18/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/18/97	12/18/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	31			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	47		J	A,

OGDEN VALIDATED

LEVEL V

Approved By: Cydia Schurst Date: 3/9/98

1S44/021397p

9015

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS540	Units:	MG/KG
Lab Code:	L9704259-003	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	for Qual	Qu ar
Antimony	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	UJ	G
Arsenic	EPA 3050	7060	6	1	12/18/97	12/18/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	130		J	A
Beryllium	EPA 3050	6010	0.6	1	12/18/97	12/18/97	0.7			
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	22			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	8			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	12			
Lead	EPA 3050	6010	6	1	12/18/97	12/18/97	16			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/18/97	12/18/97	16			
Selenium	EPA 3050	7740	6	1	12/18/97	12/18/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	2			
Thallium	EPA 3050	7841	6	1	12/18/97	12/18/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	39			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	92		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 3/9/98

1S44/021397p

9002

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS542	Units:	MG/KG
Lab Code:	L9704259-004	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Reviewer Qual	Inorganic Qual
Antimony	EPA 3050	6010	13	1	12/18/97	12/18/97	13	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/18/97	12/18/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	260		J	A
Beryllium	EPA 3050	6010	0.6	1	12/18/97	12/18/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	3	1	12/18/97	12/18/97	21			
Cobalt	EPA 3050	6010	3	1	12/18/97	12/18/97	7			
Copper	EPA 3050	6010	3	1	12/18/97	12/18/97	15			
Lead	EPA 3050	6010	6	1	12/18/97	12/18/97	28			
Mercury	METHOD	7471	0.3	1	12/18/97	12/19/97	0.3	U	U	
Molybdenum	EPA 3050	6010	13	1	12/18/97	12/18/97	13	U	U	
Nickel	EPA 3050	6010	6	1	12/18/97	12/18/97	14			
Selenium	EPA 3050	7740	6	1	12/18/97	12/18/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	34			
Thallium	EPA 3050	7841	6	1	12/18/97	12/18/97	6	U	U	
Vanadium	EPA 3050	6010	3	1	12/18/97	12/18/97	33			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	150		J	A

SCREEN VALIDATED

LEVEL V

Revision #1
12.1.99 M

Approved By: _____ Date: 9/14/98

IS44/021397p

9003 - R

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS543	Units:	MG/KG
Lab Code:	L9704259-005	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Jan Final	Qua Cod
Antimony	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/18/97	12/18/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	120		J	A
Beryllium	EPA 3050	6010	0.5	1	12/18/97	12/18/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	16			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	6			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	10			
Lead	EPA 3050	6010	5	1	12/18/97	12/18/97	9			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/18/97	12/18/97	11			
Selenium	EPA 3050	7740	5	1	12/18/97	12/18/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1			
Thallium	EPA 3050	7841	5	1	12/18/97	12/18/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	29			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	68		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cyndie Schmidt Date: 3/9/98

1S44/021397p

9004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS544	Units:	MG/KG
Lab Code:	L9704259-006	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Reason Qual	Qual Code
Antimony	EPA 3050	6010	12	1	12/18/97	12/18/97	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/18/97	12/18/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	61		J	A
Beryllium	EPA 3050	6010	0.6	1	12/18/97	12/18/97	3.1			
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	11			
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	47			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	6			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	57			
Lead	EPA 3050	6010	6	1	12/18/97	12/18/97	150			
Mercury	METHOD	7471	0.2	10	12/18/97	12/19/97	4.4			
Molybdenum	EPA 3050	6010	12	1	12/18/97	12/18/97	12	U	U	
Nickel	EPA 3050	6010	6	1	12/18/97	12/18/97	20			
Selenium	EPA 3050	7740	6	1	12/18/97	12/18/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/18/97	12/18/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	18			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	2600		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Schwartz Date: 3/9/98

IS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name: RS545
Lab Code: L9704259-007
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Qual	Qual
Antimony	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/18/97	12/18/97	9			
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	68		J	A
Beryllium	EPA 3050	6010	0.6	1	12/18/97	12/18/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	3			
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	15			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	5			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	22			
Lead	EPA 3050	6010	6	1	12/18/97	12/18/97	28			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/18/97	12/18/97	11			
Selenium	EPA 3050	7740	6	1	12/18/97	12/18/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/18/97	12/18/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	23			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	250		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Schwartz Date: 3/9/98

IS44/021397p

9006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS546	Units:	MG/KG
Lab Code:	L9704259-008	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Qual	Lab Qual
Antimony	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/18/97	12/18/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	97		J	A
Beryllium	EPA 3050	6010	0.5	1	12/18/97	12/18/97	0.7			
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	20			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	7			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	11			
Lead	EPA 3050	6010	5	1	12/18/97	12/18/97	11			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/18/97	12/18/97	16			
Selenium	EPA 3050	7740	5	1	12/18/97	12/18/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/18/97	12/18/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	36			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	58		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schuett Date: 3/9/98

IS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS547	Units:	MG/KG
Lab Code:	L9704259-009	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual cont
Antimony	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/18/97	12/18/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	90		J	A
Beryllium	EPA 3050	6010	0.6	1	12/18/97	12/18/97	0.7			
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	22			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	7			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	11			
Lead	EPA 3050	6010	6	1	12/18/97	12/18/97	9			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/18/97	12/18/97	14			
Selenium	EPA 3050	7740	6	1	12/18/97	12/18/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/18/97	12/18/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	38			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	55		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 3/9/98

1S44/021397p

9008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS548	Units:	MG/KG
Lab Code:	L9704259-010	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Qual	Lab Qual
Antimony	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/18/97	12/18/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	60		J	A
Beryllium	EPA 3050	6010	0.5	1	12/18/97	12/18/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	19			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	7			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	11			
Lead	EPA 3050	6010	5	1	12/18/97	12/18/97	7			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/18/97	12/18/97	14			
Selenium	EPA 3050	7740	5	1	12/18/97	12/18/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/18/97	12/18/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	31			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	43		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Lichenwalt Date: 3/9/98

1S44/021397p

9009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS549	Units:	MG/KG
Lab Code:	L9704259-011	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Lab Qual	Lab Code
Antimony	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/18/97	12/18/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	75		J	A
Beryllium	EPA 3050	6010	0.5	1	12/18/97	12/18/97	0.7			
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	20			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	6			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	7			
Lead	EPA 3050	6010	5	1	12/18/97	12/18/97	9			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/18/97	12/18/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/18/97	12/18/97	10			
Selenium	EPA 3050	7740	5	1	12/18/97	12/18/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/18/97	12/18/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	39			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	51		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cydis Schuzt Date: 3/9/98

1S44/021397p

9010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704259
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS550	Units:	MG/KG
Lab Code:	L9704259-012	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Per Qual	Qual Rev
Antimony	EPA 3050	6010	12	1	12/18/97	12/18/97	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/18/97	12/18/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/18/97	12/18/97	990		J	A
Beryllium	EPA 3050	6010	0.6	1	12/18/97	12/18/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/18/97	12/18/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/18/97	12/18/97	28			
Cobalt	EPA 3050	6010	2	1	12/18/97	12/18/97	6			
Copper	EPA 3050	6010	2	1	12/18/97	12/18/97	14			
Lead	EPA 3050	6010	6	1	12/18/97	12/18/97	36			
Mercury	METHOD	7471	0.2	1	12/18/97	12/19/97	0.2	U	U	
Molybdenum	EPA 3050	6010	12	1	12/18/97	12/18/97	12	U	U	
Nickel	EPA 3050	6010	6	1	12/18/97	12/18/97	12			
Selenium	EPA 3050	7740	6	1	12/18/97	12/18/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/18/97	12/18/97	85			
Thallium	EPA 3050	7841	6	1	12/18/97	12/18/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/18/97	12/18/97	29			
Zinc	EPA 3050	6010	1	1	12/18/97	12/18/97	1300		J	A

OGDEN VALIDATED

LEVEL V

Revision # 1
1/21/99

Approved By: _____ Date: 9/14/98

1S44/021397p

9011-R

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: 6010/7000
No. of Samples: 15
Date Completed: November 25, 1998
Reviewer: K. Chapman
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994), Columbia Analytical Services, Inc. - Canoga Park, Determination of Trace Elements by Inductively Coupled Plasma, Optical Emission Spectrometry SOP ICP-OES, Revision 1.0* (8/96). *Columbia Analytical Services, Inc. - Canoga Park, Graphite Furnace Atomic Absorption Spectrometry SOP GFA-GFAA, Revision 1.0* (8/96). *Columbia Analytical Services, Inc. - Canoga Park, Mercury in Solid or Semisolid Waste SOP MET-7471, Revision 2.0* (3/98).
SDG: L9704229
Samples Reviewed: RF465, RF466, RF467, RF468, RF469, RF470, RF471, RF472, RF473, RF474, RF475, RF476, RF477, RF480, RS552

EPA Level V- Metals Assessment Form

	Problems	Qualifications
1. Sample Management	The sample condition questions were answered on the applicable COC. There were corrections on the COCs that were initialed, but not dated. The sample cooler temperatures upon receipt were noted on the COC between 9°C and 12 C. Samples were collected by Ogden personnel, placed in coolers containing ice, and hand delivered to the laboratory. No sample preservation or handling problems were noted.	As the target analytes are not volatile, qualifications are not assigned for temperatures upon receipt. No qualifications were assigned.
2. Method Blanks	None. All method blank results were below laboratory determined PQLs.	None
3. LCS	The LCS results were all within the laboratory established control limits of 75-125%R.	None

	Problems	Qualifications
4. Duplicates	None performed.	None
5. MS/MSDs Performed on soil sample RF471	Antimony: MS at 39%R/MSD at 36%R. Selenium: MS at 53%R/MSD at 60%R.	Antimony and selenium nondetects qualified "UJ" for the MS/MSD %Rs.
6. Furnace Atomic Absorption QC Post digestion spikes performed on sample RF465	The post digestion spike recoveries for the arsenic, selenium, and thallium analyses were within the 85-115%R control limit. The validator determined the post spike results by reviewing the GFAA raw data.	None
7. ICP Serial Dilution Performed on sample RF474	With the exception of zinc and barium, all serial dilution results greater than 10 the PQL were within the 10%D control limit. The %Ds for zinc and barium are 13.4% and 11.0%, respectively. There was no ICP serial dilution form in the report. The validator determined the serial dilution results by reviewing the ICP raw data.	Zinc and barium detects qualified as estimated, "J."
8. Field QC Samples ER samples: RF149 and RS516 FB samples: RS682 Field Duplicates: none	Zinc was reported in ER RF149 at 0.16 mg/L.	Zinc qualified as estimated, "J," in samples RF465, RF466, RF467, RF468, RF469, RF470, RF471, and RF472.
9. Other	None	None
10. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/10/97
Sample Matrix:	Soil	**Date Received:**	12/10/97

Metals

Sample Name:	RF465	Units:	MG/KG
Lab Code:	L9704229-001	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/19/97	12/22/97	10			
Barium	EPA 3050	6010	1	1	12/23/97	12/26/97	62		J	A
Beryllium	EPA 3050	6010	0.5	1	12/23/97	12/26/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/23/97	12/26/97	10			
Cobalt	EPA 3050	6010	2	1	12/23/97	12/26/97	4			
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	6			
Lead	EPA 3050	6010	5	1	12/23/97	12/26/97	6			
Mercury	METHOD	7471	0.2	1	12/23/97	12/24/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/23/97	12/26/97	7			
Selenium	EPA 3050	7740	5	1	12/19/97	12/22/97	5	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/19/97	12/22/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/23/97	12/26/97	18			
Zinc	EPA 3050	6010	1	1	12/23/97	12/26/97	39		J	A,F

LEVEL V

OGDEN VALIDATED

Approved By: Cydie Schuett Date: 3/6/98

1S44/021397p

5002

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/10/97
Sample Matrix:	Soil	**Date Received:**	12/10/97

Metals

Sample Name:	RF466	Units:	MG/KG
Lab Code:	L9704229-002	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/19/97	12/22/97	17			
Barium	EPA 3050	6010	1	1	12/23/97	12/26/97	48		J	A
Beryllium	EPA 3050	6010	0.5	1	12/23/97	12/26/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/23/97	12/26/97	11			
Cobalt	EPA 3050	6010	2	1	12/23/97	12/26/97	4			
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	5			
Lead	EPA 3050	6010	5	1	12/23/97	12/26/97	6			
Mercury	METHOD	7471	0.2	1	12/23/97	12/24/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/23/97	12/26/97	7			
Selenium	EPA 3050	7740	5	1	12/19/97	12/22/97	5	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/19/97	12/22/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/23/97	12/26/97	20			
Zinc	EPA 3050	6010	1	1	12/23/97	12/26/97	33		J	A,F

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Schwartz Date: 3/6/98

1S44/021397p

5003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/10/97
Sample Matrix:	Soil	**Date Received:**	12/10/97

Metals

Sample Name: RF467
Lab Code: L9704229-003
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/19/97	12/22/97	13			
Barium	EPA 3050	6010	1	1	12/23/97	12/26/97	56		J	A
Beryllium	EPA 3050	6010	0.5	1	12/23/97	12/26/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/23/97	12/26/97	10			
Cobalt	EPA 3050	6010	2	1	12/23/97	12/26/97	4			
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	7			
Lead	EPA 3050	6010	5	1	12/23/97	12/26/97	8			
Mercury	METHOD	7471	0.2	1	12/23/97	12/24/97	0.3			
Molybdenum	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/23/97	12/26/97	7			
Selenium	EPA 3050	7740	5	1	12/19/97	12/22/97	5	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/19/97	12/22/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/23/97	12/26/97	19			
Zinc	EPA 3050	6010	1	1	12/23/97	12/26/97	41		J	A,F

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schmidt Date: 3/6/98

1S44/021397p

5004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/10/97
Sample Matrix:	Soil	**Date Received:**	12/10/97

Metals

Sample Name:	RF468	Units:	MG/KG
Lab Code:	L9704229-004	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/19/97	12/22/97	19			
Barium	EPA 3050	6010	1	1	12/23/97	12/26/97	74		J	A
Beryllium	EPA 3050	6010	0.6	1	12/23/97	12/26/97	0.8			
Cadmium	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/23/97	12/26/97	14			
Cobalt	EPA 3050	6010	2	1	12/23/97	12/26/97	5			
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	5			
Lead	EPA 3050	6010	6	1	12/23/97	12/26/97	9			
Mercury	METHOD	7471	0.2	1	12/23/97	12/24/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/23/97	12/26/97	7			
Selenium	EPA 3050	7740	6	1	12/19/97	12/22/97	6	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/19/97	12/22/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/23/97	12/26/97	29			
Zinc	EPA 3050	6010	1	1	12/23/97	12/26/97	40		J	AF

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Schmidt Date: 3/6/98

IS44/021397p

5005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/10/97
Sample Matrix:	Soil	**Date Received:**	12/10/97

Metals

Sample Name:	RF469	Units:	MG/KG
Lab Code:	L9704229-005	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	12	1	12/23/97	12/26/97	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/19/97	12/22/97	11			
Barium	EPA 3050	6010	1	1	12/23/97	12/26/97	56		J	A
Beryllium	EPA 3050	6010	0.6	1	12/23/97	12/26/97	0.9			
Cadmium	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/23/97	12/26/97	13			
Cobalt	EPA 3050	6010	2	1	12/23/97	12/26/97	4			
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	6			
Lead	EPA 3050	6010	6	1	12/23/97	12/26/97	12			
Mercury	METHOD	7471	0.2	1	12/23/97	12/24/97	0.2	U	U	
Molybdenum	EPA 3050	6010	12	1	12/23/97	12/26/97	12	U	U	
Nickel	EPA 3050	6010	6	1	12/23/97	12/26/97	8			
Selenium	EPA 3050	7740	6	1	12/19/97	12/22/97	6	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/19/97	12/22/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/23/97	12/26/97	30			
Zinc	EPA 3050	6010	1	1	12/23/97	12/26/97	37		J	A,F

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 3/6/98

IS44/021397p

5006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/10/97
Sample Matrix:	Soil	**Date Received:**	12/10/97

Metals

Sample Name: RF470
Lab Code: L9704229-006
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	12	1	12/23/97	12/26/97	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/19/97	12/22/97	12			
Barium	EPA 3050	6010	1	1	12/23/97	12/26/97	76		J	A
Beryllium	EPA 3050	6010	0.6	1	12/23/97	12/26/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/23/97	12/26/97	10			
Cobalt	EPA 3050	6010	2	1	12/23/97	12/26/97	4			
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	13			
Lead	EPA 3050	6010	6	1	12/23/97	12/26/97	19			
Mercury	METHOD	7471	0.2	1	12/23/97	12/24/97	0.2	U	U	
Molybdenum	EPA 3050	6010	12	1	12/23/97	12/26/97	12	U	U	
Nickel	EPA 3050	6010	6	1	12/23/97	12/26/97	7			
Selenium	EPA 3050	7740	6	1	12/19/97	12/22/97	6	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/19/97	12/22/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/23/97	12/26/97	20			
Zinc	EPA 3050	6010	1	1	12/23/97	12/26/97	72		J	A,F

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Schwartz Date: 3/6/98

IS44/021397p

5007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/10/97
Sample Matrix:	Soil	**Date Received:**	12/10/97

Metals

Sample Name:	RF471	Units:	MG/KG
Lab Code:	L9704229-007	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	10	1	12/23/97	12/26/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/19/97	12/22/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/23/97	12/26/97	64		J	A
Beryllium	EPA 3050	6010	0.5	1	12/23/97	12/26/97	0.7			
Cadmium	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/23/97	12/26/97	12			
Cobalt	EPA 3050	6010	2	1	12/23/97	12/26/97	4			
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	5			
Lead	EPA 3050	6010	5	1	12/23/97	12/26/97	5	U	U	
Mercury	METHOD	7471	0.2	1	12/23/97	12/24/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	12/23/97	12/26/97	10	U	U	
Nickel	EPA 3050	6010	5	1	12/23/97	12/26/97	8			
Selenium	EPA 3050	7740	5	1	12/19/97	12/22/97	5	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/19/97	12/22/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/23/97	12/26/97	27			
Zinc	EPA 3050	6010	1	1	12/23/97	12/26/97	41		J	A,F

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Schwartz Date: 3/6/98

1S44/021397p

5008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/10/97
Sample Matrix:	Soil	**Date Received:**	12/10/97

Metals

Sample Name:	RF472	Units:	MG/KG
Lab Code:	L9704229-008	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Antimony	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/19/97	12/22/97	7			
Barium	EPA 3050	6010	1	1	12/23/97	12/26/97	43		J	A
Beryllium	EPA 3050	6010	0.5	1	12/23/97	12/26/97	0.6			
Cadmium	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/23/97	12/26/97	14			
Cobalt	EPA 3050	6010	2	1	12/23/97	12/26/97	5			
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	4			
Lead	EPA 3050	6010	5	1	12/23/97	12/26/97	9			
Mercury	METHOD	7471	0.2	1	12/23/97	12/24/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/23/97	12/26/97	6			
Selenium	EPA 3050	7740	5	1	12/19/97	12/22/97	5	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/19/97	12/22/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/23/97	12/26/97	26			
Zinc	EPA 3050	6010	1	1	12/23/97	12/26/97	40		J	A,F

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 3/6/98

1S44/021397p

5009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RF473	Units:	MG/KG
Lab Code:	L9704229-010	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Rev Qual Code
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	8			

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schmidt Date: 3/6/98

1S44/021397p

5010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RF474	Units:	MG/KG
Lab Code:	L9704229-011	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	11			

LEVEL V

OGDEN VALIDATED

Approved By: Cydie Schuett Date: 3/6/98

IS44/021397p

5011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RF475	Units:	MG/KG
Lab Code:	L9704229-012	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	7			

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 3/6/98

1S44/021397p

5012

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RF476	Units:	MG/KG
Lab Code:	L9704229-013	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	11			

LEVEL V

OGDEN VALIDATED

Approved By: Eydie Schwartz Date: 3/6/98

1S44/021397p

5013

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RF477	Units:	MG/KG
Lab Code:	L9704229-014	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Lev Qual	Qual Code
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	11			

LEVEL V

OGDEN VALIDATED

Approved By: Cydia Schwartz Date: 3/6/98

IS44/021397p

5014

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RF480	Units:	MG/KG
Lab Code:	L9704229-017	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Lead	EPA 3050	6010	6	1	12/23/97	12/26/97	6	U	u	

LEVEL V

OGDEN VALIDATED

Approved By: Cynthia Schwartz Date: 3/6/98

1S44/021397p

5015

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9704229
Project:	Rocketdyne/313150002	**Date Collected:**	12/11/97
Sample Matrix:	Soil	**Date Received:**	12/12/97

Metals

Sample Name:	RS552	Units:	MG/KG
Lab Code:	L9704229-020	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/19/97	12/22/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/23/97	12/26/97	45		J	A
Beryllium	EPA 3050	6010	0.5	1	12/23/97	12/26/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/23/97	12/26/97	9			
Cobalt	EPA 3050	6010	2	1	12/23/97	12/26/97	3			
Copper	EPA 3050	6010	2	1	12/23/97	12/26/97	3			
Lead	EPA 3050	6010	5	1	12/23/97	12/26/97	6			
Mercury	METHOD	7471	0.2	1	12/23/97	12/24/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/23/97	12/26/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/23/97	12/26/97	5	U	U	
Selenium	EPA 3050	7740	5	1	12/19/97	12/22/97	5	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/23/97	12/26/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/19/97	12/22/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/23/97	12/26/97	19			
Zinc	EPA 3050	6010	1	1	12/23/97	12/26/97	46		J	A

LEVEL V

OGDEN VALIDATED

Approved By: Eddie Schwartz Date: 3/6/98

IS44/021397p

5016

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: 6010/7000
No. of Samples: 17
Date Completed: September 10, 1998
Reviewer: K. Okonzak-Lowry
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994), Columbia Analytical Services, Inc. - Canoga Park, Determination of Trace Elements by Inductively Coupled Plasma, Optical Emission Spectrometry SOP ICP-OES, Revision 1.0* (8/96), *Columbia Analytical Services, Inc. - Canoga Park, Graphite Furnace Atomic Absorption Spectrometry SOP GFA-GFAA, Revision 1.0* (8/96), *Columbia Analytical Services, Inc. - Canoga Park, Mercury in Solid or Semisolid Waste SOP MET-7471, Revision 2.0* (3/98).
SDG: L9703923
Samples Reviewed: RF861, RF866, RF279, RF280, RF281, RF282, RF286, RF287, RF289, RF871, RF872, RF873, RF879, RF302, RF305, RF306, RF310

EPA Level V- Metals Assessment Form

	Problems	Qualifications
1. Sample Management	The sample condition questions were answered on the applicable COCs. The sample cooler temperatures upon receipt were noted on the COCs at 7°C, 8°C, and 18°C. The COCs were signed by the field and laboratory personnel. No cooler custody seals were present.	Due to the nonvolatile nature of the analytes, the samples were not qualified for the elevated cooler temperatures.
2. Method Blanks	None. All method blank results were below laboratory determined PQLs.	None
3. LCS	The LCS results were all within the laboratory established control limits of 75-125%R.	None
4. Duplicates	None performed.	None
5. MS/MSDs Performed on soil sample RF310	Antimony: MS at 57%R/MSD at 61%R.	Antimony nondetects were qualified "UJ" for the MS/MSD %Rs.

	Problems	Qualifications
	Mercury: MS at 138%R/MSD at 146%R	Mercury detected in sample RF873 was qualified "J."
6. Furnace Atomic Absorption QC Post digestion spikes performed on samples RF861 and RF289	The post digestion spike recoveries for the arsenic, selenium, and thallium analyses were within the 85-115%R control limit. The validator determined the post spike results by reviewing the GFAA raw data.	None
7. ICP Serial Dilution Performed on sample RF873	All serial dilution results greater than 10 the PQL were within the 10%D control limit, and no sample qualifications were required.	None
8. Field QC Samples ER samples: RF149, RF020, and RF932 FB sample: RS682 Field Duplicates: RF871/RF872	Zinc was detected at 0.16 mg/L in ER RF149. The detects for the field duplicate samples were in common with RPDs of 100% or less.	Zinc detected in samples RF280, RF281, RF282, RF286, RF287, RF289, RF302, RF305, RF306, and RF310 was qualified "J."
9. Other	None	None
10. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Metals

Sample Name:	RF279	Units:	MG/KG
Lab Code:	L9703923-003	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes Rev Qual	Qual Code
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	34		

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

3004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Metals

Sample Name:	RF280	Units:	MG/KG
Lab Code:	L9703923-004	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/4/97	12/5/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	75			
Beryllium	EPA 3050	6010	0.6	1	12/9/97	12/9/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	13			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	5			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	7			
Lead	EPA 3050	6010	6	1	12/9/97	12/9/97	10			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/9/97	12/9/97	11			
Selenium	EPA 3050	7740	6	1	12/4/97	12/5/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	7			
Thallium	EPA 3050	6010	6	1	12/4/97	12/5/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	27			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	62		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schwartz Date: 2/12/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Metals

Sample Name:	RF281	Units:	MG/KG
Lab Code:	L9703923-005	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	120			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	13			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	6			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	9			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	6			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	9			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	6010	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	28			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	44		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 1/12/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Metals

Sample Name:	RF282	Units:	MG/KG
Lab Code:	L9703923-006	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	10	1	12/9/97	12/9/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	52			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.5			
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	15			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	6			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	8			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	9			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	12/9/97	12/9/97	10	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	11			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	6010	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	29			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	50		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Eric Schmidt Date: 2/10/98

1S44/021397p

3007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Metals

Sample Name:	RF286	Units:	MG/KG
Lab Code:	L9703923-007	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	12			
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	73			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	14			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	5			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	7			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	8			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	10			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	6010	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	28			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	41		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Dehnert Date: 2/13/98

1S44/021397p

3008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Metals

Sample Name:	RF287	Units:	MG/KG
Lab Code:	L9703923-008	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	12			
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	55			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.7			
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	19			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	6			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	7			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	7			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	11			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	6010	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	36			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	42		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Schmidt Date: 2/12/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Metals

Sample Name:	RF289	Units:	MG/KG
Lab Code:	L9703923-009	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	86			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	13			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	5			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	7			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	8			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	10			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	6010	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	28			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	40		J	F

SCREEN VALIDATED

LEVEL V

Approved By: Eydie Lehnert Date: 2/10/98

1S44/021397p

3010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/18/97
Sample Matrix:	Soil	**Date Received:**	11/18/97

Metals

Sample Name:	RF302	Units:	MG/KG
Lab Code:	L9703923-017	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	60			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	13			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	5			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	10			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	21			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	11			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	22			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	58		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/12/98

1544/021397p

3015

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/18/97
Sample Matrix:	Soil	**Date Received:**	11/18/97

Metals

Sample Name:	RF305	Units:	MG/KG
Lab Code:	L9703923-018	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	86			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	16			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	6			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	9			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	7			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	14			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	30			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	46		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schuett Date: 2/2/98

1S44/021397p

3016

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/18/97
Sample Matrix:	Soil	**Date Received:**	11/18/97

Metals

Sample Name:	RF306	Units:	MG/KG
Lab Code:	L9703923-019	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	78			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	16			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	7			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	9			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	8			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	14			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	30			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	43		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Schmidt Date: 2/10/98

1S44/021397p

3017

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/19/97
Sample Matrix:	Soil	**Date Received:**	11/19/97

Metals

Sample Name:	RF310	Units:	MG/KG
Lab Code:	L9703923-020	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	10	1	12/9/97	12/9/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	56			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	6			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	3			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	7			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	12			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	12/9/97	12/9/97	10	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	5	U	U	
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	16			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	54		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Eddie Schwartz Date: 2/12/98

1S44/021397p

3018

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Metals

Sample Name:	RF861	Units:	MG/KG
Lab Code:	L9703923-001	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual code
Antimony	EPA 3050	6010	10	1	12/9/97	12/9/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	10			
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	42			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.6			
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	20			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	6			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	41			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	17			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	12/9/97	12/9/97	10	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	14			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	6010	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	28			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	76			

OGDEN VALIDATED

LEVEL V

Approved By: Cydia Schwartz Date: 5/12/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/14/97
Sample Matrix:	Soil	**Date Received:**	11/14/97

Metals

Sample Name:	RF866	Units:	MG/KG
Lab Code:	L9703923-002	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/4/97	12/5/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	49			
Beryllium	EPA 3050	6010	0.5	1	12/9/97	12/9/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	11			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	4			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	11			
Lead	EPA 3050	6010	5	1	12/9/97	12/9/97	16			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	5	1	12/9/97	12/9/97	9			
Selenium	EPA 3050	7740	5	1	12/4/97	12/5/97	5	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	6010	5	1	12/4/97	12/5/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	21			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	85			

OGDEN VALIDATED

LEVEL V

Approved By: Cyndi Schmidt Date: 2/12/98

1S44/021397p

3003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Metals

Sample Name:	RF871	Units:	MG/KG
Lab Code:	L9703923-010	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/4/97	12/5/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	57			
Beryllium	EPA 3050	6010	0.6	1	12/9/97	12/9/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	11			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	5			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	7			
Lead	EPA 3050	6010	6	1	12/9/97	12/9/97	18			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/9/97	12/9/97	9			
Selenium	EPA 3050	7740	6	1	12/4/97	12/5/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	6010	6	1	12/4/97	12/5/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	24			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	83			

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schuett Date: 2/12/98

1S44/021397p

3011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Metals

Sample Name:	RF872	Units:	MG/KG
Lab Code:	L9703923-011	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Key Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/4/97	12/5/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	50			
Beryllium	EPA 3050	6010	0.6	1	12/9/97	12/9/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	11			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	4			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	7			
Lead	EPA 3050	6010	6	1	12/9/97	12/9/97	15			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/9/97	12/9/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/9/97	12/9/97	8			
Selenium	EPA 3050	7740	6	1	12/4/97	12/5/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	6010	6	1	12/4/97	12/5/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	22			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	85			

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Schwartz Date: 2/12/98

1S44/021397p

3012

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Metals

Sample Name:	RF873	Units:	MG/KG
Lab Code:	L9703923-012	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	12	1	12/9/97	12/9/97	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/4/97	12/5/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	72			
Beryllium	EPA 3050	6010	0.6	1	12/9/97	12/9/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	130			
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	33			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	7			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	25			
Lead	EPA 3050	6010	6	1	12/9/97	12/9/97	68			
Mercury	METHOD	7471	0.2	10	12/4/97	12/5/97	2.3		J	Q
Molybdenum	EPA 3050	6010	12	1	12/9/97	12/9/97	12	U	U	
Nickel	EPA 3050	6010	6	1	12/9/97	12/9/97	17			
Selenium	EPA 3050	7740	6	1	12/4/97	12/5/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	4			
Thallium	EPA 3050	7841	6	1	12/4/97	12/5/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	23			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	280			

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Lehnert Date: 2/12/98

1544/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703923
Project:	Rocketdyne/313150002	**Date Collected:**	11/17/97
Sample Matrix:	Soil	**Date Received:**	11/17/97

Metals

Sample Name:	RF879	Units:	MG/KG
Lab Code:	L9703923-015	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	12	1	12/9/97	12/9/97	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/4/97	12/5/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/9/97	12/9/97	94			
Beryllium	EPA 3050	6010	0.6	1	12/9/97	12/9/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/9/97	12/9/97	21			
Cobalt	EPA 3050	6010	2	1	12/9/97	12/9/97	6			
Copper	EPA 3050	6010	2	1	12/9/97	12/9/97	17			
Lead	EPA 3050	6010	6	1	12/9/97	12/9/97	34			
Mercury	METHOD	7471	0.2	1	12/4/97	12/5/97	0.2	U	U	
Molybdenum	EPA 3050	6010	12	1	12/9/97	12/9/97	12	U	U	
Nickel	EPA 3050	6010	6	1	12/9/97	12/9/97	15			
Selenium	EPA 3050	7740	6	1	12/4/97	12/5/97	6	U	U	
Silver	EPA 3050	6010	1	1	12/9/97	12/9/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/4/97	12/5/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/9/97	12/9/97	34			
Zinc	EPA 3050	6010	1	1	12/9/97	12/9/97	100			

OGDEN VALIDATED

LEVEL V

Approved By: Cindie Schmidt Date: 2/12/98

1S44/021397p

3014

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: 6010/7000
No. of Samples: 8
Date Completed: August 25, 1998
Reviewer: K. Okonzak-Lowry
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994), Columbia Analytical Services, Inc. - Canoga Park, Determination of Trace Elements by Inductively Coupled Plasma, Optical Emission Spectrometry SOP ICP-OES, Revision 1.0* (8/96). *Columbia Analytical Services, Inc. - Canoga Park, Graphite Furnace Atomic Absorption Spectrometry SOP GFA-GFAA, Revision 1.0* (8/96). *Columbia Analytical Services, Inc. - Canoga Park, Mercury in Solid or Semisolid Waste SOP MET-7471, Revision 2.0* (3/98).
SDG: L9703846
Samples Reviewed: RF839, RF242, RF243, RF244, RF245, RF246, RF247, RF248

EPA Level V- Metals Assessment Form

	Problems	Qualifications
1. Sample Management	The sample condition questions were answered on the applicable COCs. The sample cooler temperature upon receipt was noted on the COC at 7°C, and no cooler temperature was noted on the COC for sample RF839. The COCs were signed by the field and laboratory personnel. No cooler custody seals were present. The mercury analysis for sample RF839 was done outside of the 28 day holding time for mercury.	Due to the nonvolatile nature of the analytes, the samples were not qualified for the temperature blank. The mercury nondetect for sample RF839 was qualified "UJ" for the holding time.
2. Method Blanks	None. All method blank results were below laboratory determined PQLs.	None
3. LCS	The LCS results were all within the laboratory established control limits	None

	Problems	Qualifications
	of 75-125%R.	
4. Duplicates	None performed.	None
5. MS/MSDs Performed on soil samples RF245 and RF458(SDG L9404204) (The MS/MSD on RF458 applies only to site sample RF839)	RF245: Antimony: MS at 50%R/MSD at 53%R. Selenium: MS at 53%/MSD at 63%R RF458: Antimony: MS at 41%R/MSD at 46%R Arsenic: MS at 41%R/MSD at 83%R Selenium: MS at 63%R/MSD at 99%R, and the precision between the MS/MSD results was at 43%RPD	For sample RF839, the antimony, arsenic, and selenium nondetects were qualified "UJ." For the other site samples, the antimony and selenium nondetects were qualified "UJ."
6. Furnace Atomic Absorption QC Post digestion spikes performed on sample RF242 and on samples RS523 and RF461 of SDG L9704204 (The post digestion spikes on samples RS523 and RF461 apply only to site sample RF839.)	The post digestion spike recoveries for the arsenic, selenium, and thallium analyses were within the 85-115%R control limit. The validator determined the post spike results by reviewing the GFAA raw data.	None
7. ICP Serial Dilution Performed on sample RF242 and on sample RF456 of SDG L9704242 (The serial dilution performed on RF456 applies only to site sample RF839.)	All serial dilution results greater than 10 the PQL were within the 10%D control limit. There was no ICP serial dilution form in the report. The validator determined the serial dilution results by reviewing the ICP raw data.	None
8. Field QC Samples ER samples: RF020, RF149, RF858, and RF859 FB sample: RS682 Field Duplicates: None identified for this SDG	Zinc was detected in equipment rinsate RF149 at 0.16 mg/L.	Zinc detected in site samples RF839 and RF245 was qualified "J."
9. Other	None	None

	Problems	Qualifications
10. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Metals

Sample Name:	RF242	Units:	MG/KG
Lab Code:	L9703846-002	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	12	1	12/2/97	12/3/97	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/2/97	12/2/97	9			
Barium	EPA 3050	6010	1	1	12/2/97	12/3/97	85			
Beryllium	EPA 3050	6010	0.6	1	12/2/97	12/3/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/2/97	12/3/97	20			
Chromium	EPA 3050	6010	2	1	12/2/97	12/3/97	72			
Cobalt	EPA 3050	6010	2	1	12/2/97	12/3/97	14			
Copper	EPA 3050	6010	2	1	12/2/97	12/3/97	200			
Lead	EPA 3050	6010	6	1	12/2/97	12/3/97	100			
Mercury	METHOD	7471	0.2	2	11/20/97	11/20/97	1.0			
Molybdenum	EPA 3050	6010	12	1	12/2/97	12/3/97	12	U	U	
Nickel	EPA 3050	6010	6	1	12/2/97	12/3/97	81			
Selenium	EPA 3050	7740	6	1	12/2/97	12/2/97	6	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/2/97	12/3/97	5			
Thallium	EPA 3050	7841	6	1	12/2/97	12/2/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/2/97	12/3/97	35			
Zinc	EPA 3050	6010	1	1	12/2/97	12/3/97	1100			

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schwartz Date: 2/12/98

IS44/021397p

7006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Metals

%Solids: 95.42%

Sample Name: RF243
Lab Code: L9703846-003
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	10	1	12/2/97	12/3/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	12/2/97	12/2/97	5	U	U	
Barium	EPA 3050	6010	1	1	12/2/97	12/3/97	96			
Beryllium	EPA 3050	6010	0.5	1	12/2/97	12/3/97	0.7			
Cadmium	EPA 3050	6010	1	1	12/2/97	12/3/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/2/97	12/3/97	18			
Cobalt	EPA 3050	6010	2	1	12/2/97	12/3/97	8			
Copper	EPA 3050	6010	2	1	12/2/97	12/3/97	16			
Lead	EPA 3050	6010	5	1	12/2/97	12/3/97	12			
Mercury	METHOD	7471	0.2	1	11/20/97	11/20/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	12/2/97	12/3/97	10	U	U	
Nickel	EPA 3050	6010	5	1	12/2/97	12/3/97	14			
Selenium	EPA 3050	7740	5	1	12/2/97	12/2/97	5	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/2/97	12/3/97	1	U	U	
Thallium	EPA 3050	7841	5	1	12/2/97	12/2/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	12/2/97	12/3/97	34			
Zinc	EPA 3050	6010	1	1	12/2/97	12/3/97	100			

MSL
8/24/98

DATA VALIDATED

LEVEL V

Approved By: Eddie Schmidt Date: 2/12/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Metals

Sample Name:	RF244	Units:	MG/KG
Lab Code:	L9703846-004	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/2/97	12/3/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/2/97	12/2/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/2/97	12/3/97	79			
Beryllium	EPA 3050	6010	0.6	1	12/2/97	12/3/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/2/97	12/3/97	4			
Chromium	EPA 3050	6010	2	1	12/2/97	12/3/97	56			
Cobalt	EPA 3050	6010	2	1	12/2/97	12/3/97	12			
Copper	EPA 3050	6010	2	1	12/2/97	12/3/97	110			
Lead	EPA 3050	6010	6	1	12/2/97	12/3/97	44			
Mercury	METHOD	7471	0.2	1	11/20/97	11/20/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/2/97	12/3/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/2/97	12/3/97	130			
Selenium	EPA 3050	7740	6	1	12/2/97	12/2/97	6	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/2/97	12/3/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/2/97	12/2/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/2/97	12/3/97	31			
Zinc	EPA 3050	6010	1	1	12/2/97	12/3/97	640			

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/12/98

1S44/021397p

7008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Metals

Sample Name:	RF245	Units:	MG/KG
Lab Code:	L9703846-005	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/2/97	12/3/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/2/97	12/2/97	6	U	U	
Barium	EPA 3050	6010	1	1	12/2/97	12/3/97	89			
Beryllium	EPA 3050	6010	0.6	1	12/2/97	12/3/97	0.8			
Cadmium	EPA 3050	6010	1	1	12/2/97	12/3/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/2/97	12/3/97	17			
Cobalt	EPA 3050	6010	2	1	12/2/97	12/3/97	5			
Copper	EPA 3050	6010	2	1	12/2/97	12/3/97	8			
Lead	EPA 3050	6010	6	1	12/2/97	12/3/97	9			
Mercury	METHOD	7471	0.2	1	11/20/97	11/20/97	0.2	U	U	
Molybdenum	EPA 3050	6010	11	1	12/2/97	12/3/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/2/97	12/3/97	11			
Selenium	EPA 3050	7740	6	1	12/2/97	12/2/97	6	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/2/97	12/3/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/2/97	12/2/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/2/97	12/3/97	34			
Zinc	EPA 3050	6010	1	1	12/2/97	12/3/97	45		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/12/98

IS44/021397p

7009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Metals

Sample Name:	RF246	Units:	MG/KG
Lab Code:	L9703846-006	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Arsenic	EPA 3050	7060	5	1	12/2/97	12/2/97	8			

DATA VALIDATED

LEVEL V

Approved By: Eydie Lehnert Date: 12/12/97

IS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Metals

Sample Name:	RF247	Units:	MG/KG
Lab Code:	L9703846-007	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Arsenic	EPA 3050	7060	5	2.5	12/2/97	12/2/97	61			

DATA VALIDATED

LEVEL V

Approved By: Eydie Schmidt Date: 2/12/98

1S44/021397p

7011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Metals

Sample Name:	RF248	Units:	MG/KG
Lab Code:	L9703846-008	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Arsenic	EPA 3050	7060	5	1	12/2/97	12/2/97	6			

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schmidt Date: 2/12/98

15:44/021397p

7012

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703846
Project:	Rocketdyne/313150002	**Date Collected:**	11/11/97
Sample Matrix:	Soil	**Date Received:**	11/11/97

Metals

Sample Name:	RF839	Units:	MG/KG
Lab Code:	L9703846-001	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Aluminum	EPA 3050	6010	11	1	12/19/97	12/26/97	7900			
Boron	EPA 3050	6010	11	1	12/19/97	12/26/97	11	U	u	

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/13/98

1S44/021397p

7005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Ogden Environmental
Project: Rocketdyne/313150002
Sample Matrix: Soil

Service Request: L9703846
Date Collected: 11/11/97
Date Received: 11/11/97

Metals

Sample Name: RF839
Lab Code: L9703846-001
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	11	1	12/19/97	12/22/97	11	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	12/18/97	12/19/97	6	U	UJ	Q
Barium	EPA 3050	6010	1	1	12/19/97	12/22/97	75			
Beryllium	EPA 3050	6010	0.6	1	12/19/97	12/22/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	12/19/97	12/22/97	1	U	U	
Chromium	EPA 3050	6010	2	1	12/19/97	12/22/97	10			
Cobalt	EPA 3050	6010	2	1	12/19/97	12/22/97	5			
Copper	EPA 3050	6010	2	1	12/19/97	12/22/97	10			
Lead	EPA 3050	6010	6	1	12/19/97	12/22/97	10			
Mercury	METHOD	7471	0.2	1	12/19/97	12/22/97	0.2	U	UJ	H
Molybdenum	EPA 3050	6010	11	1	12/19/97	12/22/97	11	U	U	
Nickel	EPA 3050	6010	6	1	12/19/97	12/22/97	9			
Selenium	EPA 3050	7740	6	1	12/18/97	12/19/97	6	U	UJ	Q
Silver	EPA 3050	6010	1	1	12/19/97	12/22/97	1	U	U	
Thallium	EPA 3050	7841	6	1	12/18/97	12/19/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	12/19/97	12/22/97	29			
Zinc	EPA 3050	6010	1	1	12/19/97	12/22/97	40		J	F

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Schwartz Date: 2/12/98

1S44/021397p

7004

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: 6010/7000
No. of Samples: 12
Date Completed: August 19, 1998
Reviewer: K. Okonzak-Lowry
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994), Columbia Analytical Services, Inc. - Canoga Park, Determination of Trace Elements by Inductively Coupled Plasma, Optical Emission Spectrometry SOP ICP-OES, Revision 1.0* (8/96). *Columbia Analytical Services, Inc. - Canoga Park, Graphite Furnace Atomic Absorption Spectrometry SOP GFA-GFAA, Revision 1.0* (8/96). *Columbia Analytical Services, Inc. - Canoga Park, Mercury in Solid or Semisolid Waste SOP MET-7471, Revision 2.0* (3/98).
SDG: L9703679
Samples Reviewed: RF713, RF714, RF715, RF717, RF718, RF719, RF720, RF721, RF723, RF728, RF731, RF732

EPA Level V- Metals Assessment Form

	Problems	Qualifications
1. Sample Management	The sample condition questions were answered on the applicable COCs. The sample cooler temperatures upon receipt were noted on the COCs at 14°C and 3°C. The COCs were signed by the field and laboratory personnel. No cooler custody seals were present.	Due to the nonvolatile nature of the analytes, the samples were not qualified for the temperature blanks.
2. Method Blanks	None. All method blank results were below laboratory determined PQLs.	None
3. LCS	The LCS results were all within the laboratory established control limits of 75-125%R.	None
4. Duplicates	None performed.	None
5. MS/MSDs Performed on soil samples	Antimony: MS at 49%R/MSD at 46%R.	Antimony nondetects qualified "UJ" for the MS/MSD %Rs.

	Problems	Qualifications
RF731(no Al or B) and RF458, SDG 4204,(Al and B only)	The aluminum and boron only results for RF458 were within the 75-125%R control limits.	
6. Furnace Atomic Absorption QC Post digestion spikes performed on sample RF715	The post digestion spike recoveries for the arsenic, selenium, and thallium analyses were within the 85-115%R control limit. The validator determined the post spike results by reviewing the GFAA raw data.	None
7. ICP Serial Dilution Performed on sample RF714	All serial dilution results greater than 10 the PQL were within the 10%D control limit with the exception of zinc with a 15.3%D. There was no ICP serial dilution form in the report. The validator determined the serial dilution results by reviewing the ICP raw data.	Zinc detected in the samples was qualified "J."
8. Field QC Samples ER sample: RF803 FB sample: RS682 Field Duplicates: None identified for this SDG	There were detects in the field QC samples but none at high enough levels to require sample qualifications.	None
9. Other	None	None
10. Comments	None	None

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Metals

Sample Name:	RF713	Units:	MG/KG
Lab Code:	L9703679-001	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	11/6/97	11/6/97	5	U	U	
Barium	EPA 3050	6010	1	1	11/6/97	11/6/97	970			
Beryllium	EPA 3050	6010	0.5	1	11/6/97	11/6/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	11/6/97	11/6/97	1			
Chromium	EPA 3050	6010	2	1	11/6/97	11/6/97	29			
Cobalt	EPA 3050	6010	2	1	11/6/97	11/6/97	6			
Copper	EPA 3050	6010	2	1	11/6/97	11/6/97	27			
Lead	EPA 3050	6010	5	1	11/6/97	11/6/97	77			
Mercury	METHOD	7471	0.2	1	11/6/97	11/6/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	U	
Nickel	EPA 3050	6010	5	1	11/6/97	11/6/97	11			
Selenium	EPA 3050	7740	5	1	11/6/97	11/6/97	5	U	U	
Silver	EPA 3050	6010	1	1	11/6/97	11/6/97	150			
Thallium	EPA 3050	7841	5	1	11/6/97	11/6/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	11/6/97	11/6/97	24			
Zinc	EPA 3050	6010	1	1	11/6/97	11/6/97	3400	J		A

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/5/98

1544/021397p

5001

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Metals

Sample Name:	RF714	Units:	MG/KG
Lab Code:	L9703679-002	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	11/6/97	11/6/97	5	U	U	
Barium	EPA 3050	6010	1	1	11/6/97	11/6/97	1000			
Beryllium	EPA 3050	6010	0.5	1	11/6/97	11/6/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	11/6/97	11/6/97	1	U	U	
Chromium	EPA 3050	6010	2	1	11/6/97	11/6/97	16			
Cobalt	EPA 3050	6010	2	1	11/6/97	11/6/97	6			
Copper	EPA 3050	6010	2	1	11/6/97	11/6/97	17			
Lead	EPA 3050	6010	5	1	11/6/97	11/6/97	40			
Mercury	METHOD	7471	0.2	1	11/6/97	11/6/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	U	
Nickel	EPA 3050	6010	5	1	11/6/97	11/6/97	11			
Selenium	EPA 3050	7740	5	1	11/6/97	11/6/97	5	U	U	
Silver	EPA 3050	6010	1	1	11/6/97	11/6/97	110			
Thallium	EPA 3050	7841	5	1	11/6/97	11/6/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	11/6/97	11/6/97	28			
Zinc	EPA 3050	6010	1	1	11/6/97	11/6/97	3200	J		A

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Calvert Date: 2/5/98

IS4/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Sludge	**Date Received:**	10/28/97

Metals

Sample Name:	RF715	Units:	MG/KG
Lab Code:	L9703679-003	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Antimony	EPA 3050	6010	39	1	11/6/97	11/6/97	39	U	UJ	Q
Arsenic	EPA 3050	7060	20	1	11/6/97	11/6/97	20	U	U	
Barium	EPA 3050	6010	4	1	11/6/97	11/6/97	68			
Beryllium	EPA 3050	6010	2	1	11/6/97	11/6/97	2	U	U	
Cadmium	EPA 3050	6010	4	1	11/6/97	11/6/97	27			
Chromium	EPA 3050	6010	8	1	11/6/97	11/6/97	32			
Cobalt	EPA 3050	6010	8	1	11/6/97	11/6/97	8	U	U	
Copper	EPA 3050	6010	8	1	11/6/97	11/6/97	68			
Lead	EPA 3050	6010	20	1	11/6/97	11/6/97	200			
Mercury	METHOD	7471	0.8	4	11/6/97	11/6/97	5.3			
Molybdenum	EPA 3050	6010	39	1	11/6/97	11/6/97	39	U	U	
Nickel	EPA 3050	6010	20	1	11/6/97	11/6/97	30			
Selenium	EPA 3050	7740	20	1	11/6/97	11/6/97	20	U	U	
Silver	EPA 3050	6010	4	1	11/6/97	11/6/97	4	U	U	
Thallium	EPA 3050	7841	20	1	11/6/97	11/6/97	20	U	U	
Vanadium	EPA 3050	6010	8	1	11/6/97	11/6/97	10			
Zinc	EPA 3050	6010	4	1	11/6/97	11/6/97	1200		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Date: 2/5/98

1S44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Metals

Sample Name:	RF717	Units:	MG/KG
Lab Code:	L9703679-005	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Antimony	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	11/6/97	11/6/97	5	U	U	
Barium	EPA 3050	6010	1	1	11/6/97	11/6/97	340			
Beryllium	EPA 3050	6010	0.5	1	11/6/97	11/6/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	11/6/97	11/6/97	1	U	U	
Chromium	EPA 3050	6010	2	1	11/6/97	11/6/97	13			
Cobalt	EPA 3050	6010	2	1	11/6/97	11/6/97	5			
Copper	EPA 3050	6010	2	1	11/6/97	11/6/97	12			
Lead	EPA 3050	6010	5	1	11/6/97	11/6/97	35			
Mercury	METHOD	7471	0.2	1	11/6/97	11/6/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	U	
Nickel	EPA 3050	6010	5	1	11/6/97	11/6/97	9			
Selenium	EPA 3050	7740	5	1	11/6/97	11/6/97	5	U	U	
Silver	EPA 3050	6010	1	1	11/6/97	11/6/97	35			
Thallium	EPA 3050	7841	5	1	11/6/97	11/6/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	11/6/97	11/6/97	21			
Zinc	EPA 3050	6010	1	1	11/6/97	11/6/97	250		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schuett Date: 2/5/98

1S44021397p

5004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Metals

Sample Name:	RF718	Units:	MG/KG
Lab Code:	L9703679-006	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Cod
Antimony	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	11/6/97	11/6/97	5	U	U	
Barium	EPA 3050	6010	1	1	11/6/97	11/6/97	150			
Beryllium	EPA 3050	6010	0.5	1	11/6/97	11/6/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	11/6/97	11/6/97	1	U	U	
Chromium	EPA 3050	6010	2	1	11/6/97	11/6/97	18			
Cobalt	EPA 3050	6010	2	1	11/6/97	11/6/97	6			
Copper	EPA 3050	6010	2	1	11/6/97	11/6/97	10			
Lead	EPA 3050	6010	5	1	11/6/97	11/6/97	12			
Mercury	METHOD	7471	0.2	1	11/6/97	11/6/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	U	
Nickel	EPA 3050	6010	5	1	11/6/97	11/6/97	14			
Selenium	EPA 3050	7740	5	1	11/6/97	11/6/97	5	U	U	
Silver	EPA 3050	6010	1	1	11/6/97	11/6/97	6			
Thallium	EPA 3050	7841	5	1	11/6/97	11/6/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	11/6/97	11/6/97	32			
Zinc	EPA 3050	6010	1	1	11/6/97	11/6/97	89		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/5/98

IS44/021397p

5005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Metals

Sample Name:	RF719	Units:	MG/KG
Lab Code:	L9703679-007	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qua Code
Antimony	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	11/6/97	11/6/97	5	U	U	
Barium	EPA 3050	6010	1	1	11/6/97	11/6/97	140			
Beryllium	EPA 3050	6010	0.5	1	11/6/97	11/6/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	11/6/97	11/6/97	1	U	U	
Chromium	EPA 3050	6010	2	1	11/6/97	11/6/97	11			
Cobalt	EPA 3050	6010	2	1	11/6/97	11/6/97	5			
Copper	EPA 3050	6010	2	1	11/6/97	11/6/97	9			
Lead	EPA 3050	6010	5	1	11/6/97	11/6/97	12			
Mercury	METHOD	7471	0.2	1	11/6/97	11/6/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	U	
Nickel	EPA 3050	6010	5	1	11/6/97	11/6/97	9			
Selenium	EPA 3050	7740	5	1	11/6/97	11/6/97	5	U	U	
Silver	EPA 3050	6010	1	1	11/6/97	11/6/97	7			
Thallium	EPA 3050	7841	5	1	11/6/97	11/6/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	11/6/97	11/6/97	21			
Zinc	EPA 3050	6010	1	1	11/6/97	11/6/97	73		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cydie Schwartz Date: 2/5/98

1544/021397p

5006

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Metals

Sample Name:	RF720	Units:	MG/KG
Lab Code:	L9703679-008	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	11/6/97	11/6/97	5	U	U	
Barium	EPA 3050	6010	1	1	11/6/97	11/6/97	110			
Beryllium	EPA 3050	6010	0.5	1	11/6/97	11/6/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	11/6/97	11/6/97	1	U	U	
Chromium	EPA 3050	6010	2	1	11/6/97	11/6/97	14			
Cobalt	EPA 3050	6010	2	1	11/6/97	11/6/97	5			
Copper	EPA 3050	6010	2	1	11/6/97	11/6/97	17			
Lead	EPA 3050	6010	5	1	11/6/97	11/6/97	24			
Mercury	METHOD	7471	0.2	1	11/6/97	11/6/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	U	
Nickel	EPA 3050	6010	5	1	11/6/97	11/6/97	13			
Selenium	EPA 3050	7740	5	1	11/6/97	11/6/97	5	U	U	
Silver	EPA 3050	6010	1	1	11/6/97	11/6/97	5			
Thallium	EPA 3050	7841	5	1	11/6/97	11/6/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	11/6/97	11/6/97	25			
Zinc	EPA 3050	6010	1	1	11/6/97	11/6/97	130		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 12/5/98

IS44/021397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Metals

Sample Name:	RF721	Units:	MG/KG
Lab Code:	L9703679-009	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Aluminum	EPA 3050	6010	10	1	11/6/97	11/6/97	9300			
Boron	EPA 3050	6010	10	1	11/6/97	11/6/97	18			

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/5/98

1S44/021397p

5008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/29/97
Sample Matrix:	Sludge	**Date Received:**	10/29/97

Metals

Sample Name:	RF728	Units:	MG/KG
Lab Code:	L9703679-017	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	12	1	11/6/97	11/6/97	12	U	UJ	Q
Arsenic	EPA 3050	7060	6	1	11/6/97	11/6/97	6	U	U	
Barium	EPA 3050	6010	1	1	11/6/97	11/6/97	97			
Beryllium	EPA 3050	6010	0.6	1	11/6/97	11/6/97	0.6	U	U	
Cadmium	EPA 3050	6010	1	1	11/6/97	11/6/97	2			
Chromium	EPA 3050	6010	2	1	11/6/97	11/6/97	17			
Cobalt	EPA 3050	6010	2	1	11/6/97	11/6/97	6			
Copper	EPA 3050	6010	2	1	11/6/97	11/6/97	21			
Lead	EPA 3050	6010	6	1	11/6/97	11/6/97	22			
Mercury	METHOD	7471	0.2	1	11/6/97	11/6/97	0.2	U	U	
Molybdenum	EPA 3050	6010	12	1	11/6/97	11/6/97	12	U	U	
Nickel	EPA 3050	6010	6	1	11/6/97	11/6/97	24			
Selenium	EPA 3050	7740	6	1	11/6/97	11/6/97	6	U	U	
Silver	EPA 3050	6010	1	1	11/6/97	11/6/97	3			
Thallium	EPA 3050	7841	6	1	11/6/97	11/6/97	6	U	U	
Vanadium	EPA 3050	6010	2	1	11/6/97	11/6/97	28			
Zinc	EPA 3050	6010	1	1	11/6/97	11/6/97	110		J	A

EDEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/5/98

1S44/021397p

5009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Ogden Environmental
Project: Rocketdyne/313150002
Sample Matrix: Soil

Service Request: L9703679
Date Collected: 10/29/97
Date Received: 10/29/97

Metals

Sample Name: RF731
Lab Code: L9703679-019
Test Notes:

Units: MG/KG
Basis: Dry

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	11/6/97	11/6/97	5	U	U	
Barium	EPA 3050	6010	1	1	11/6/97	11/6/97	60			
Beryllium	EPA 3050	6010	0.5	1	11/6/97	11/6/97	0.5	U	U	
Cadmium	EPA 3050	6010	1	1	11/6/97	11/6/97	1	U	U	
Chromium	EPA 3050	6010	2	1	11/6/97	11/6/97	11			
Cobalt	EPA 3050	6010	2	1	11/6/97	11/6/97	5			
Copper	EPA 3050	6010	2	1	11/6/97	11/6/97	7			
Lead	EPA 3050	6010	5	1	11/6/97	11/6/97	23			
Mercury	METHOD	7471	0.2	1	11/6/97	11/6/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	U	
Nickel	EPA 3050	6010	5	1	11/6/97	11/6/97	7			
Selenium	EPA 3050	7740	5	1	11/6/97	11/6/97	5	U	U	
Silver	EPA 3050	6010	1	1	11/6/97	11/6/97	1	U	U	
Thallium	EPA 3050	7841	5	1	11/6/97	11/6/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	11/6/97	11/6/97	23			
Zinc	EPA 3050	6010	1	1	11/6/97	11/6/97	78		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Cynthia Schwartz Date: 2/5/98

IS44/021397p

5010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/29/97
Sample Matrix:	Soil	**Date Received:**	10/29/97

Metals

Sample Name:	RF732	Units:	MG/KG
Lab Code:	L9703679-020	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Antimony	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	UJ	Q
Arsenic	EPA 3050	7060	5	1	11/6/97	11/6/97	5	U	U	
Barium	EPA 3050	6010	1	1	11/6/97	11/6/97	94			
Beryllium	EPA 3050	6010	0.5	1	11/6/97	11/6/97	0.6			
Cadmium	EPA 3050	6010	1	1	11/6/97	11/6/97	1	U	U	
Chromium	EPA 3050	6010	2	1	11/6/97	11/6/97	18			
Cobalt	EPA 3050	6010	2	1	11/6/97	11/6/97	7			
Copper	EPA 3050	6010	2	1	11/6/97	11/6/97	9			
Lead	EPA 3050	6010	5	1	11/6/97	11/6/97	8			
Mercury	METHOD	7471	0.2	1	11/6/97	11/6/97	0.2	U	U	
Molybdenum	EPA 3050	6010	10	1	11/6/97	11/6/97	10	U	U	
Nickel	EPA 3050	6010	5	1	11/6/97	11/6/97	12			
Selenium	EPA 3050	7740	5	1	11/6/97	11/6/97	5	U	U	
Silver	EPA 3050	6010	1	1	11/6/97	11/6/97	1	U	U	
Thallium	EPA 3050	7841	5	1	11/6/97	11/6/97	5	U	U	
Vanadium	EPA 3050	6010	2	1	11/6/97	11/6/97	36			
Zinc	EPA 3050	6010	1	1	11/6/97	11/6/97	62		J	A

OGDEN VALIDATED

LEVEL V

Approved By: Eydie Schmidt Date: 2/5/98

IS44/021397p

5011

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Ogden Environmental	**Service Request:**	L9703679
Project:	Rocketdyne/313150002	**Date Collected:**	10/28/97
Sample Matrix:	Soil	**Date Received:**	10/28/97

Metals

Sample Name:	RF723	Units:	MG/KG
Lab Code:	L9703679-011	Basis:	Dry
Test Notes:			

Analyte	Prep Method	Analysis Method	PQL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Rev Qual	Qual Code
Aluminum	EPA 3050	6010	10	1	12/19/97	12/26/97	12000			
Boron	EPA 3050	6010	10	1	12/19/97	12/26/97	10			

CODEN VALIDATED

LEVEL V

Approved By: Eydie Schwartz Date: 2/3/98

1344/021397p

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

550 South Wadsworth Blvd. Ste. 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: General Minerals
No. of Samples: 12
Date Completed: March 22, 1999
Reviewer: A. Lang
Ref: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review (Feb. 1994).*
SDG: New Conservation Yard & ESADA
Samples Reviewed: ESADA 1, ESADA 2, ESADA 3, ESADA 4, ESADA 5, ESADA 6, NEW CONS 1, NEW CONS 2, NEW CONS 3, NEW CONS 4, NEW CONS 5, NEW CONS 6

EPA Level V- General Minerals Assessment Form

	Problems	Qualifications
1. Sample Management	Holding time exceeded for pH analysis. The COCs were signed by field and laboratory personnel. Sample conditions and cooler temperatures were not recorded on the COCs; therefore, no evaluation of the sample data could be made based on sample conditions upon receipt.	All site sample pH results qualified as estimated, "J."
2. Method Blanks	Method blank results were not included in the laboratory's report. Evaluation of possible laboratory contamination could not be made.	No qualifications were required.
3. LCS/BS	There were no blank spikes included in the laboratory's report. Evaluation of laboratory accuracy was not possible.	No qualifications were required.
4. Duplicates	There were no laboratory duplicates included in the laboratory's report. Evaluation of laboratory precision was not possible.	No qualifications were required.

5. MS/MSDs	Not applicable.	None
6. Field QC Samples	Not applicable to pH analysis.	None
7. Other	None	None
8. Comments	None	None

Analytical Technologies, Inc. GENERAL CHEMISTRY RESULTS

ATI I.D. : 808317

CLIENT : GROUNDWATER RESOURCES
PROJECT # : 8640-4
PROJECT NAME : SSFL-AREA IV

DATE RECEIVED : 08/27/88
REPORT DATE 09/21/88

PARAMETER	UNITS	01	02	03	04	05
% MOISTURE		11.0	* 11.1	* 12.1	* 8.21	* 9.39
PH	UNITS	8.35 J	H 8.37 J	H 8.01 J	H 8.23 J	H 8.28 J

OGDEN VALIDAT

LEVEL V

*Analysis Not Validated

AnalyticalTechnologies, Inc. GENERAL CHEMISTRY RESULTS

ATI I.D. : 808317

C NT : GROUNDWATER RESOURCES
PROJECT # : 8640-4
PROJECT NAME : SSFL-AREA IV

DATE RECEIVED : 08/27/88
REPORT DATE 09/21/88

PARAMETER	UNITS	06	07	08	09	10
% MOISTURE		8.86	* 4.42	* 11.0	* 4.69	* 4.17
PH	UNITS	8.13 J	# 7.35 J	# 6.55 J	# 6.93 J	# 6.81 J

OGDEN VALIDATED

LEVEL V

*Analysis Not Validated

Analytical Technologies, Inc. GENERAL CHEMISTRY RESULTS

ATI I.D. : 808317

CLIENT : GROUNDWATER RESOURCES
PROJECT # : 8640-4
PROJECT NAME : SSFL-AREA IV

DATE RECEIVED : 08/27/88
REPORT DATE : 09/21/88

NEW CON — SEDIMENT

PARAMETER	UNITS	11	12	13	14	15
% MOISTURE		3.77	* 4.72	* 4.02	6.94	4.61
PH	UNITS	5.84 J H	6.34 J H	6.74	6.87	6.53

OGDEN VALIDATE

LEVEL V

*Analysis Not Validated

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

0

550 South Wadsworth Blvd. Suite 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: EPA Method 8240
No. of Samples: 12
Date Reviewed: 02/23/99
Reviewer: L. Calvin
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review (Feb. 1994)*, and *Ogden Data Validation Procedure for Volatile Organics by GC/MS* (DVP-2, Rev. 2).
SDG: NEW YARD
Samples Reviewed: ESADA 1 1.5′-2.0′, ESADA 1 4.0′-4.5′, ESADA 2 1.0′-1.5′, ESADA 2 4.5′-5.0′, ESADA 3 1.0′-1.5′, ESADA 3 3.5′-4.0′, NEWCONS 1 1.5′-2.0′, NEWCONS 1 3.5′-4.0′, NEWCONS 2 1.0′-1.5′, NEWCONS 2 3.5′-4.0′, NEWCONS 3 1.0′-1.5′, NEWCONS 3 3.3′-3.8′
Matrix: Soil

EPA Level V- Volatiles Assessment Form

	Problems	Qualifications
1. Sample Management	The COCs were signed by field and laboratory personnel. Sample conditions and cooler temperatures were not recorded on the COCs; therefore, no evaluation of the sample data could be made based on sample conditions upon receipt. Samples were extracted and analyzed within 14 days of collection.	No qualifications were required.
4. Method Blanks	The method blank associated with the samples of this SDG was analyzed each day samples were analyzed. Methylene chloride was detected in the first analysis of the blank, and benzene and toluene were detected in two subsequent	No qualifications were required.

	Problems	Qualifications
	analyses of the blank. Toluene was detected in one sample associated only with the first analysis of the method blank. None of the blank contaminants were detected in any sample associated with its respective blank analysis.	
5. LCS/BS	One blank spike/blank spike duplicate pair was associated with the samples of this SDG, analyzed each day that associated samples were analyzed. The laboratory's report did not include recovery or RPD QC limits; however, in the professional judgement of the reviewer, percent recoveries and RPDs for all spiked analytes were acceptable for all analyses of the blank spike/blank spike duplicate pair.	No qualifications were required.
6. Surrogates	Though the laboratory's report did not include surrogate recovery QC limits, none of the sample surrogate recoveries were flagged as outliers, and in the professional judgement of the reviewer, surrogate percent recoveries were acceptable for all samples in this SDG.	No qualifications were required.
7. MS/MSDs	The laboratory did not analyze any MS/MSD pairs with the samples of this SDG. No evaluation of the sample data could be made regarding accuracy and precision.	No qualifications were required.
8. Field QC Samples TB: none ER: none FB: none Field duplicates: none	The data package did not contain field QC sample information; no evaluation of sample data was made based on field QC.	No qualifications were required.
10. Other		

	Problems	Qualifications
	There were no TICs detected in the samples of this SDG. The compound name "dichlorobenzenes" was included on each TIC report as an added compound with a reporting limit.	Because the dichlorobenzene isomers were apparently searched for as TICs, and would have been quantitated as TICs if detected, nondetect results for dichlorobenzenes were qualified as estimated, "UJ."
10. Other (continued)	Nominal reporting limits for the samples of this SDG were approximately 25H less than the EPA CLP reporting limits for medium-level soils. Neither a laboratory method detection limit study (MDL) nor sample prep information were available to aid in determining how the reporting limits were derived.	No qualifications were required.
11. Comments	None	None

AnalyticalTechnologies,Inc. GCMS - RESULTS

ATI I.D. : 80831701

T ' : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: ESADA 1 1.5'-2.0'	DATE ANALYZED	: 09/02/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1,1,1-TRICHLOROETHANE	<0.05		
CARBON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENE	<0.05		

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	86
BFB (%)	92
TOLUENE-D8 (%)	95

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831701

ADDITIONAL MAJOR COMPOUNDS	RESULTS	rev qual	qual code
DICHLOROBENZENES	<0.05	UJ	* 10

Analytical Technologies, Inc. GCMS - RESULTS

ATI I.D. : 80831702

T : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: ESADA 1 4.0'-4.5'	DATE ANALYZED	: 09/02/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	ver qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1,1,1-TRICHLOROETHANE	<0.05		
CARBON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	84
BR (%)	87
TOLUENE-D8 (%)	90

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831702

DITIONAL MAJOR COMPOUNDS	RESULTS	ver qual	qual code
DICHLOROBENZENES	<0.05	UJ	*10

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831703

T : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: ESADA 2 1.0'-1.5'	DATE ANALYZED	: 09/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	verif qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1 ,1-TRICHLOROETHANE	<0.05		
C BON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

-DICHLOROETHANE-D4 (%)	111
Br B (%)	99
TOLUENE-D8 (%)	111

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831703

ITIONAL MAJOR COMPOUNDS	RESULTS	rev qual	qual code
DICHLOROBENZENES	<0.05	UJ	*10

Analytical Technologies, Inc. GCMS - RESULTS

ATI I.D. : 80831704

T T : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: ESADA 2 4.5'-5.0'	DATE ANALYZED	: 09/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rep qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1,1,1-TRICHLOROETHANE	<0.05		
C 3ON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

1 ^-DICHLOROETHANE-D4 (%)	100
B. (%)	96
TOLUENE-D8 (%)	104

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831704

ITIONAL MAJOR COMPOUNDS	RESULTS	rw qual	qua code
DICHLOROBENZENES	<0.05	UJ	*10

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831705

1 ,T : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: ESADA 3 1.0'-1.5'	DATE ANALYZED	: 09/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rel qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1 ,1-TRICHLOROETHANE	<0.05		
C..BON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

1 -DICHLOROETHANE-D4 (%)	94
BrB (%)	98
TOLUENE-D8 (%)	102

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831705

ADDITIONAL MAJOR COMPOUNDS	RESULTS	rev qual	qual code
DICHLOROBENZENES	<0.05	UJ	*10

Analytical Technologies, Inc. GCMS - RESULTS

ATI I.D. : 80831706

T : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: ESADA 3 3.5'-4.0'	DATE ANALYZED	: 09/07/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	ret qual	qua code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1,1,1-TRICHLOROETHANE	<0.05		
CARBON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	77
BFB (%)	82
TOLUENE-D8 (%)	80

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831706

ITIONAL MAJOR COMPOUNDS	RESULTS	ver qual	qual code
DICHLOROBENZENES	<0.05	UJ	+10

AnalyticalTechnologies, Inc. GCMS - RESULTS

ATI I.D. : 80831707

T ? : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 1 1.5'-2.0'	DATE ANALYZED	: 09/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1.1,1-TRICHLOROETHANE	<0.05		
C BON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

1 ?-DICHLOROETHANE-D4 (%)	98
L , (%)	97
TOLUENE-D8 (%)	96

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831707

ITIONAL MAJOR COMPOUNDS	RESULTS	rev qual	qual code
DICHLOROBENZENES	<0.05	UJ	* 10

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831708

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 1 3.5'-4.0'	DATE ANALYZED	: 09/07/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
,1-TRICHLOROETHANE	<0.05		
CARBON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

2-DICHLOROETHANE-D4 (%)	93
BFB (%)	98
TOLUENE-D8 (%)	94

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831708

ADDITIONAL MAJOR COMPOUNDS	RESULTS	val qual	qual code
DICHLOROBENZENES	<0.05	UJ	*10

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831709

T : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 2 1'-1.5'	DATE ANALYZED	: 09/07/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1,1,1-TRICHLOROETHANE	<0.05		
CARBON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	89
BFB (%)	97
TOLUENE-D8 (%)	97

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831709

ITIONAL MAJOR COMPOUNDS	RESULTS	rev qual	qual code
DICHLOROBENZENES	<0.05	UJ	*10

Analytical**Technologies,**Inc. GCMS - RESULTS

ATI I.D. : 80831710

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 2 3.5'-4.0'	DATE ANALYZED	: 09/07/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
,1-TRICHLOROETHANE	<0.05		
CARBON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

2-DICHLOROETHANE-D4 (%)	93
BFB (%)	99
TOLUENE-D8 (%)	98

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831710

ITIONAL MAJOR COMPOUNDS	RESULTS	rev qual	qual code
DICHLOROBENZENES	<0.05	UJ	*10

AnalyticalTechnologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831711

T : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 3 1.0'-1.5'	DATE ANALYZED	: 09/02/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qua code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1,1,1-TRICHLOROETHANE	<0.05		
CARBON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	0.11		
CHLOROBENZENE	<0.05	U	
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	92
BFB (%)	98
TOLUENE-D8 (%)	97

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831711

A. TIONAL MAJOR COMPOUNDS	RESULTS	rev qual	qual code
DICHLOROBENZENES	<0.05	UJ	*10

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831712

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 3 3.3'-3.8'	DATE ANALYZED	: 09/06/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
CHLOROMETHANE	<0.50	U	
BROMOMETHANE	<0.50		
VINYL CHLORIDE	<0.05		
CHLOROETHANE	<0.05		
METHYLENE CHLORIDE	<0.3		
ACETONE	<0.50		
CARBON DISULFIDE	<0.05		
1,1-DICHLOROETHENE	<0.05		
1,1-DICHLOROETHANE	<0.05		
TRANS-1,2-DICHLOROETHENE	<0.05		
CHLOROFORM	<0.05		
1,2-DICHLOROETHANE	<0.05		
2-BUTANONE (MEK)	<0.50		
1 1-TRICHLOROETHANE	<0.05		
CARBON TETRACHLORIDE	<0.05		
VINYL ACETATE	<0.50		
BROMODICHLOROMETHANE	<0.05		
1,1,2,2-TETRACHLOROETHANE	<0.05		
1,2-DICHLOROPROPANE	<0.05		
TRANS-1,3-DICHLOROPROPENE	<0.05		
TRICHLOROETHENE	<0.05		
DIBROMOCHLOROMETHANE	<0.05		
1,1,2 TRICHLOROETHANE	<0.05		
BENZENE	<0.05		
CIS-1,3-DICHLOROPROPENE	<0.05		
2-CHLOROETHYLVINYLETHER	<0.50		
BROMOFORM	<0.3		
2-HEXANONE (MBK)	<0.50		
4-METHYL-2-PENTANONE (MIBK)	<0.50		
TETRACHLOROETHENE	<0.05		
TOLUENE	<0.05		
CHLOROBENZENE	<0.05		
ETHYL BENZENE	<0.05		
STYRENE	<0.05		
TOTAL XYLENES	<0.05		

SURROGATE PERCENT RECOVERIES

1 DICHLOROETHANE-D4 (%)	82
BFB (%)	96
TOLUENE-D8 (%)	96

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831712

ADDITIONAL MAJOR COMPOUNDS	RESULTS	rev qual	qual code
DICHLOROBENZENES	<0.05	UJ	* 10

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Suite 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: Modified EPA Method 8015
No. of Samples: 12
Date Reviewed: 02/24/99
Reviewer: L. Calvin
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review (Feb. 1994)*, and *Ogden Data Validation Procedure for Extractable Total Fuel Hydrocarbons by GC* (DVP-8, Rev. 2).
SDG: NEW YARD
Samples Reviewed: ESADA 1 1.5´-2.0´, ESADA 1 4.0´-4.5´, ESADA 2 1.0´-1.5´, ESADA 2 4.5´-5.0´, ESADA 3 1.0´-1.5´, ESADA 3 3.5´-4.0´, NEWCONS 1 1.5´-2.0´, NEWCONS 1 3.5´-4.0´, NEWCONS 2 1.0´-1.5´, NEWCONS 2 3.5´-4.0´, NEWCONS 3 1.0´-1.5´, NEWCONS 3 3.3´-3.8´
Matrix: Soil

EPA Level V- Volatiles Assessment Form

	Problems	Qualifications
1. Sample Management	The COCs were signed by field and laboratory personnel. Sample conditions and cooler temperatures were not recorded on the COCs; therefore, no evaluation of the sample data could be made based on sample conditions upon receipt. The samples were extracted within 14 days of collection and analyzed within 40 days of extraction.	No qualifications were required.
4. Method Blanks	Method blank results were not included in the laboratory's report. Evaluation of possible laboratory contamination could not be made; however, as there were no reported detects in the samples of this SDG, the possibility of contamination was unlikely.	No qualifications were required.
5. LCS/BS	There were several blank spike/blank spike duplicate summaries provided in the data package. The summaries did	No qualifications were required.

	Problems	Qualifications
	not, however, include extraction dates, and association of blank spikes with particular samples was not possible. The summaries also did not include recovery or RPD QC limits; however, in the professional judgement of the reviewer, percent recoveries and RPDs for all spiked analytes were acceptable for all analyses of the blank spike/blank spike duplicate pairs.	
6. Surrogates	Whether the samples were spiked with a surrogate could not be determined, as sample surrogate recoveries were not included in the laboratory's report. No evaluation of sample data was made on the basis of surrogate recoveries.	No qualifications were required.
7. MS/MSDs	The laboratory did not analyze any MS/MSD pairs with the samples of this SDG. The laboratory did, however analyze blank spike/blank spike duplicate pairs, providing data for evaluation of laboratory accuracy and precision (see section 5.).	No qualifications were required.
8. Field QC Samples TB: none ER: none FB: none Field duplicates: none	The data package did not contain field QC sample information; no evaluation of sample data was made based on field QC.	No qualifications were required.
10. Other	No hydrocarbon ranges were provided by the laboratory. In addition, the laboratory did not provide a basis for quantitation. A report from the same laboratory for another SDG indicated that the laboratory reported results in the n-alkane range of C18-C23 and quantitated results using a diesel standard; however this information could not be verified for this SDG.	As there were no target compounds reported in the samples, the omission of the aforementioned information does not impact the data. No qualifications were required.
11. Comments	None	None

Analytical Technologies GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831701

TEST : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/29/88
CLIENT I.D.	: ESADA 1 1.5'-2.0'	DATE ANALYZED	: 08/31/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED LEVEL V

Analytical Technologies GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831702

T : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/29/88
CLIENT I.D.	: ESADA 1 4.0'-4.5'	DATE ANALYZED	: 08/31/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rep qual	qual code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831703

1 T : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/29/88
CLIENT I.D.	: ESADA 2 1.0'-1.5'	DATE ANALYZED	: 08/31/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	ver qual	qual code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831704

T : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/29/88
CLIENT I.D.	: ESADA 2 4.5'-5.0'	DATE ANALYZED	: 08/31/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	req qual	qual code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

Analytical Technologies Inc. GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831705

TEST : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/29/88
CLIENT I.D.	: ESADA 3 1.0'-1.5'	DATE ANALYZED	: 09/01/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	ver qual code
FUEL HYDROCARBONS	<5	U
HYDROCARBON RANGE	-	
HYDROCARBONS QUANTITATED USING	-	

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831706

T_ f : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/29/88
CLIENT I.D.	: ESADA 3 3.5'-4.0'	DATE ANALYZED	: 09/01/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	red qual	qual code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

Analytical Technologies Inc. GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831707

TEST : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/29/88
CLIENT I.D.	: NEWCONS 1 1.5'-2.0'	DATE ANALYZED	: 09/01/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	ret qua	qua code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

Analytical Technologies GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831708

T. P : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 1 3.5'-4.0'	DATE ANALYZED	: 09/01/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831709

TEST : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 2 1'-1.5'	DATE ANALYZED	: 09/01/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rep qua	qua code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

Analytical Technologies Inc. GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831710

TEST : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 2 3.5'-4.0'	DATE ANALYZED	: 09/01/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	ver qua	qua code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831711

TEST : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 3 1.0'-1.5'	DATE ANALYZED	: 09/01/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

Analytical Technologies Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80831712

TEST : FUEL HYDROCARBONS (MOD.EPA 8015)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 08/30/88
CLIENT I.D.	: NEWCONS 3 3.3'-3.8'	DATE ANALYZED	: 09/01/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	rev qual	qual code
FUEL HYDROCARBONS	<5	U	
HYDROCARBON RANGE	-		
HYDROCARBONS QUANTITATED USING	-		

OGDEN VALIDATED

LEVEL V

OGDEN ENVIRONMENTAL AND ENERGY SERVICES

1

550 South Wadsworth Blvd. Suite 500
Denver, CO 80226
(303) 935-6505

Rocketdyne
Analysis/Method: EPA Method 8270
No. of Samples: 12
Date Reviewed: 02/19/99
Reviewer: M. Pokorny
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review (Feb. 1994)*, and *Ogden Data Validation Procedure for Semivolatile Organics by GC/MS* (DVP-3, Rev. 2).
SDG: NEW YARD
Samples Reviewed: ESADA 1 1.5´-2.0´, ESADA 1 4.0´-4.5´, ESADA 2 1.0´-1.5´, ESADA 2 4.5´-5.0´, ESADA 3 1.0´-1.5´, ESADA 3 3.5´-4.0´, NEWCONS 1 1.5´-2.0´, NEWCONS 1 3.5´-4.0´, NEWCONS 2 1.0´-1.5´, NEWCONS 2 3.5´-4.0´, NEWCONS 3 1.0´-1.5´, NEWCONS 3 3.3´-3.8´
Matrix: Soil

EPA Level V- Semivolatiles Assessment Form

	Problems	Qualifications
1. Sample Management	The COC was signed by field and laboratory personnel. The conditions of the samples or the temperatures at which they were received were not recorded on the COC; no evaluation of the samples could be made in regards to sample receipt conditions.	No qualifications were required.
4. Method Blanks	The laboratory analyzed two method blanks with the sample of this SDG. No target compounds or TICs were detected in the method blanks.	No qualifications were required.
5. LCS/BS	The data package did not contain blank spike information; no evaluation of the samples could be made in regards to laboratory accuracy.	No qualifications were required.
6. Surrogates	Samples ESADA 1 4.0´-4.5´, ESADA 2 1.0´-1.5´, ESADA 3 1.0´-1.5´, ESADA 3 3.5´-4.0´, and NEWCONS 3 1.0´-1.5´ had recoveries of 2-fluorobiphenyl	No qualifications were required since none of the samples with surrogate outliers had any target compound detects.

	Problems	Qualifications
	above QC limits. Sample NEWCONS 3 1.0´-1.5´ also had a recovery of terphenyl-d14 above QC limits. All other sample surrogate recoveries were within the EPA Method 8270 QC limits.	
7. MS/MSDs NEWCONS 3 1.0´-1.5´	The laboratory MS/MSD summary did not have QC limits listed. All of the spiked compounds were recovered within 67% to 130% for both the MS and MSD and all RPDs were 23% or less. In the professional judgement of the reviewer, the MS and MSD % recoveries and RPDs were acceptable.	No qualifications were required.
8. Field QC Samples ER: none FB: none Field duplicates: None	The data package did not contain field QC sample information; no evaluation of the samples could be made in regards to field QC samples.	No qualifications were required.
10. Other	TICs were reported in several of the samples of this SDG. Nominal reporting limits for the samples of this SDG were one half the normal reporting limits for Method 8270.	TICs were qualified "NJ," estimated, tentatively identified.
11. Comments	None	None

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831701

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: ESADA 1 1.5'-2.0'	DATE ANALYZED	: 10/02/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
H .CHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
D ENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

LEVEL V

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831701

T : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
N-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	66
2-FLUOROBIPHENYL (%)	66
TERPHENYL (%)	56
PHENOL-D5 (%)	37
2-FLUOROPHENOL (%)	51
2,4,6-TRIBROMOPHENOL (%)	57

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831701

ADDITIONAL MAJOR COMPOUNDS	RESULTS
NONE DETECTED	N/A

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831702

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: ESADA 1 4.0'-4.5'	DATE ANALYZED	: 10/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
H \CHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
D ENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc. GCMS - RESULTS

ATI I.D. : 80831702

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
DI-N-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	98
2-FLUOROBIPHENYL (%)	129
TERPHENYL (%)	122
PHENOL-D5 (%)	79
2-FLUOROPHENOL (%)	102
2,4,6-TRIBROMOPHENOL (%)	102

OGDEN VALIDATED

LEVEL V

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831702

ADDITIONAL MAJOR COMPOUNDS	RESULTS
NONE DETECTED	N/A

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831703

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: ESADA 2 1.0'-1.5'	DATE ANALYZED	: 10/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
DIBENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831703

T ? : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
D N-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	100
2-FLUOROBIPHENYL (%)	143
TERPHENYL (%)	137
PHENOL-D5 (%)	50
2-FLUOROPHENOL (%)	104
2,4,6-TRIBROMOPHENOL (%)	100

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831703

ADDITIONAL MAJOR COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
906 BRANCHED HYDROCARBON C6	0.9	NJ	

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831704

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/23/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: ESADA 2 4.5'-5.0'	DATE ANALYZED	: 10/04/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
DIBENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED

LEVEL V

AnalyticalTechnologies,Inc.

GCMS - RESULTS

ATI I.D. : 80831704

T[illegible] : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
D[illegible]'-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	83
2-FLUOROBIPHENYL (%)	88
TERPHENYL (%)	92
PHENOL-D5 (%)	64
2-FLUOROPHENOL (%)	66
2,4,6-TRIBROMOPHENOL (%)	82

OGDEN VALIDATED

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831704

ADDITIONAL MAJOR COMPOUNDS	RESULTS
NONE DETECTED	N/A

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831705

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: ESADA 3 1.0'-1.5'	DATE ANALYZED	: 10/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
DIBENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831705

T T : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
[illegible] N-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	102
2-FLUOROBIPHENYL (%)	129
TERPHENYL (%)	126
PHENOL-D5 (%)	83
2-FLUOROPHENOL (%)	101
2,4,6-TRIBROMOPHENOL (%)	89

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831705

ADDITIONAL MAJOR COMPOUNDS	RESULTS
NONE DETECTED	N/A

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831706

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: ESADA 3 3.5'-4.0'	DATE ANALYZED	: 10/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
DIBENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc. GCMS - RESULTS

ATI I.D. : 80831706

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
DI-N-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		
SURROGATE PERCENT RECOVERIES			
NITROBENZENE-D5 (%)	107		
2-FLUOROBIPHENYL (%)	130		
TERPHENYL (%)	122		
PHENOL-D5 (%)	79		
2-FLUOROPHENOL (%)	102		
2,4,6-TRIBROMOPHENOL (%)	81		

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831706

ADDITIONAL MAJOR COMPOUNDS	RESULTS
NONE DETECTED	N/A

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc. GCMS - RESULTS

ATI I.D. : 80831707

T : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: NEWCONS 1 1.5'-2.0'	DATE ANALYZED	: 10/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
DIBENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED LEVEL V

AnalyticalTechnologies,Inc. GCMS - RESULTS

ATI I.D. : 80831707

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
DI-N-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		
SURROGATE PERCENT RECOVERIES			
NITROBENZENE-D5 (%)	86		
2-FLUOROBIPHENYL (%)	79		
TERPHENYL (%)	69		
PHENOL-D5 (%)	49		
2-FLUOROPHENOL (%)	52		
2,4,6-TRIBROMOPHENOL (%)	91		

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831707

ITIONAL MAJOR COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
1188 CYCLIC HYDROCARBON C16	0.2	NJ	

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc. GCMS - RESULTS

ATI I.D. : 80831708

T : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT : GROUNDWATER RESOURCES
PROJECT # : 8640-4
PROJECT NAME : SSFL-AREA IV
CLIENT I.D. : NEWCONS 1 3.5'-4.0'
SAMPLE MATRIX : SOIL

DATE SAMPLED : 08/24/88
DATE RECEIVED : 08/27/88
DATE EXTRACTED : 09/01/88
DATE ANALYZED : 10/03/88
UNITS : MG/KG
DILUTION FACTOR : 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
ROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
DIBENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831708

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
DI-N-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	82
2-FLUOROBIPHENYL (%)	87
TERPHENYL (%)	82
PHENOL-D5 (%)	49
2-FLUOROPHENOL (%)	59
2,4,6-TRIBROMOPHENOL (%)	99

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831708

ADDITIONAL MAJOR COMPOUNDS	RESULTS
NONE DETECTED	N/A

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831709

T : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: NEWCONS 2 1'-1.5'	DATE ANALYZED	: 10/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
ROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
BENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831709

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
DI-N-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	92
2-FLUOROBIPHENYL (%)	89
TERPHENYL (%)	74
PHENOL-D5 (%)	53
2-FLUOROPHENOL (%)	57
2,4,6-TRIBROMOPHENOL (%)	92

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831709

ADDITIONAL MAJOR COMPOUNDS	RESULTS
NONE DETECTED	N/A

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831710

T : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: NEWCONS 2 3.5'-4.0'	DATE ANALYZED	: 10/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
BENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 80831710

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
[illegible]-N-OCTYLPHTHALATE	<0.17		
[illegible]NZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	85
2-FLUOROBIPHENYL (%)	86
TERPHENYL (%)	73
PHENOL-D5 (%)	59
2-FLUOROPHENOL (%)	54
2,4,6-TRIBROMOPHENOL (%)	81

OGDEN VALIDATED

LEVEL V

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831710

ADDITIONAL MAJOR COMPOUNDS	RESULTS
NONE DETECTED	N/A

OGDEN VALIDATED LEVEL V

AnalyticalTechnologies,Inc. GCMS - RESULTS

ATI I.D. : 80831711

T : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: NEWCONS 3 1.0'-1.5'	DATE ANALYZED	: 10/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
DIBENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED LEVEL V

AnalyticalTechnologies,Inc. GCMS - RESULTS

ATI I.D. : 80831711

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
[illegible]-N-OCTYLPHTHALATE	<0.17		
[illegible]NZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	98
2-FLUOROBIPHENYL (%)	128
TERPHENYL (%)	140
PHENOL-D5 (%)	90
2-FLUOROPHENOL (%)	102
2,4,6-TRIBROMOPHENOL (%)	97

OGDEN VALIDATED LEVEL V

Analytical Technologies, Inc.

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831711

ADDITIONAL MAJOR COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
2220 BRANCHED ALKANE C22	0.7	NJ	

OGDEN VALIDATED LEVEL V

AnalyticalTechnologies,Inc. GCMS - RESULTS

ATI I.D. : 80831712

LIST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GROUNDWATER RESOURCES	DATE SAMPLED	: 08/24/88
PROJECT #	: 8640-4	DATE RECEIVED	: 08/27/88
PROJECT NAME	: SSFL-AREA IV	DATE EXTRACTED	: 09/01/88
CLIENT I.D.	: NEWCONS 3 3.3'-3.8'	DATE ANALYZED	: 10/03/88
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
N-NITROSODIMETHYLAMINE	<0.17	U	
PHENOL	<0.17		
ANILINE	<0.17		
BIS(2-CHLOROETHYL)ETHER	<0.17		
2-CHLOROPHENOL	<0.17		
1,3-DICHLOROBENZENE	<0.17		
1,4-DICHLOROBENZENE	<0.17		
BENZYL ALCOHOL	<0.17		
1,2-DICHLOROBENZENE	<0.17		
2-METHYLPHENOL	<0.17		
BIS(2-CHLOROISOPROPYL)ETHER	<0.17		
4-METHYLPHENOL	<0.17		
N-NITROSO-DI-N-PROPYLAMINE	<0.17		
HEXACHLOROETHANE	<0.17		
NITROBENZENE	<0.17		
ISOPHORONE	<0.17		
2-NITROPHENOL	<0.17		
2,4-DIMETHYLPHENOL	<0.17		
BENZOIC ACID	<0.85		
BIS(2-CHLOROETHOXY)METHANE	<0.17		
2,4-DICHLOROPHENOL	<0.17		
1,2,4-TRICHLOROBENZENE	<0.17		
NAPHTHALENE	<0.17		
4-CHLOROANILINE	<0.17		
HEXACHLOROBUTADIENE	<0.17		
4-CHLORO-3-METHYLPHENOL	<0.17		
2-METHYLNAPHTHALENE	<0.17		
HEXACHLOROCYCLOPENTADIENE	<0.17		
2,4,6-TRICHLOROPHENOL	<0.17		
2,4,5-TRICHLOROPHENOL	<0.85		
2-CHLORONAPHTHALENE	<0.17		
2-NITROANILINE	<0.85		
DIMETHYL PHTHALATE	<0.17		
ACENAPHTHYLENE	<0.17		
3-NITROANINLINE	<0.85		
ACENAPHTHENE	<0.17		
2,4-DINITROPHENOL	<0.85		
4-NITROPHENOL	<0.85		
DIBENZOFURAN	<0.17		
2,4-DINITROTOLUENE	<0.17		
2,6-DINITROTOLUENE	<0.17		

(CONTINUED NEXT PAGE)

OGDEN VALIDATED LEVEL V

AnalyticalTechnologies,Inc. GCMS - RESULTS

ATI I.D. : 80831712

T T : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS	REV QUAL	QUAL CODE
DIETHYLPHTHALATE	<0.17	U	
4-CHLOROPHENYL-PHENYLETHER	<0.17		
FLUORENE	<0.17		
4-NITROANILINE	<0.85		
4,6-DINITRO-2-METHYLPHENOL	<0.85		
N-NITROSODIPHENYLAMINE	<0.17		
4-BROMOPHENYL-PHENYLETHER	<0.17		
HEXACHLOROBENZENE	<0.17		
PENTACHLOROPHENOL	<0.85		
PHENANTHRENE	<0.17		
ANTHRACENE	<0.17		
DI-N-BUTYLPHTHALATE	<0.17		
FLUORANTHENE	<0.17		
BENZIDINE	<1.7		
PYRENE	<0.17		
BUTYLBENZYLPHTHALATE	<0.17		
3,3-DICHLOROBENZIDINE	<0.34		
BENZO(a)ANTHRACENE	<0.17		
BIS(2-ETHYLHEXYL)PHTHALATE	<0.17		
CHRYSENE	<0.17		
N-OCTYLPHTHALATE	<0.17		
BENZO(b)FLUORANTHENE	<0.17		
BENZO(k)FLUORANTHENE	<0.17		
BENZO(a)PYRENE	<0.17		
INDENO(1,2,3-cd)PYRENE	<0.17		
DIBENZO(a,h)ANTHRACENE	<0.17		
BENZO(g,h,i)PERYLENE	<0.17		

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	88
2-FLUOROBIPHENYL (%)	89
TERPHENYL (%)	75
PHENOL-D5 (%)	53
2-FLUOROPHENOL (%)	52
2,4,6-TRIBROMOPHENOL (%)	91

OGDEN VALIDATED LEVEL V

ADDITIONAL MAJOR COMPOUNDS

ATI I.D. : 80831712

ADDITIONAL MAJOR COMPOUNDS	RESULTS
NONE DETECTED	N/A

OGDEN VALIDATED LEVEL V

12269 East Vassar Drive, Aurora, CO 80014
720.535.5502, Fax 720.535.7555

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, Group 6 Data Gap
Project Manager:	D. Hambrick
Analysis/Method:	PCBs by EPA Method 8082
QC Level:	V[1]
SDG:	IPB1429
Matrix:	Soil/Water
No. of Samples:	9
No. of Reanalyses/Dilutions:	0
Date Reviewed:	March 13, 2006
Reviewer:	L. Calvin
Reference:	USEPA *Contract Laboratory Program National Functional Guidelines For Organic Data Review* (2/94)
Samples Reviewed:	MJ619, MJ622, MJ628, MJ629, MJ630, MJ631, MJ632, MJ635, MJ636

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received at Del Mar within the temperature limits of 4°±2°C, at 5°C. The COC was signed and dated by field and laboratory personnel. A memo dated 02/24/06 changed the MWH_ID for sample MJ622. Five of 11 samples for PCB analysis on the COC were on a "hold" status. MJ619, MJ635, and MJ636 were released from "hold" as per memos from MWH personnel dated 3/31/06. The COC noted sample MJ622 was a composite of samples MJ623-MJ626. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary.	No qualifications were required.
	MJ635 was extracted beyond the 14 day holding time and MJ619 and MJ636 were extracted more than 3× beyond	Aroclor results for MJ635 were qualified as estimated, "J," for detects and, "UJ," for

	Findings	Qualifications
1. Sample Management (cont)	the 14 day holding time. The remaining soil samples were extracted within 14 days and the water sample within seven days of collection. All samples were analyzed within 40 days of extraction.	nondetects. Nondetected Aroclors in MJ619 and MJ636 were rejected, "R," and Aroclors detected in the samples were qualified as estimated, "J."
4. Method Blanks 6B21048-BLK1 6B22048-BLK1 6C29051-BLK1 6C28048-BLK1	There were no Aroclors detected in the method blanks.	No qualifications were required.
5. LCS/BS 6B21048-BS2/BSD2 6B22048-BS1 6C29051-BS1/BSD1 6C28048-BS2	The recoveries for Aroclor 1016 and Aroclor 1260 were within the laboratory-established QC limits for all blank spikes, and the RPD for the blank spike/blank spike duplicate pairs were within the QC limits	No qualifications were required.
6. Surrogates	The surrogate recoveries were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were performed.	No qualifications were required.
9. Field QC Samples FB: None ER: MJ632 FD: None	The equipment rinsate had no target compound detects.	No qualifications were required.
10. Other	The soil samples were reported on a dry-weight basis in units of µg/Kg, and the water sample was reported in units of µg/L.	None.
Comments	None.	None.

[1] Level V validation consists of cursory review of the summary forms only; 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 included instrument performance, analytical sequence, initial calibration, continuing calibration, instrument blanks, sample clean-up performance, compound identification, and compound quantification.

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Del Mar Analytical

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/14/06
Received: 02/14/06

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB1429-11 (MJ619 - Soil)									H4
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6C29051	11	57	ND	1	03/29/06	03/31/06	R C H
Aroclor 1221	EPA 3545/8082	6C29051	15	57	ND	1	03/29/06	03/31/06	
Aroclor 1232	EPA 3545/8082	6C29051	6.8	57	ND	1	03/29/06	03/31/06	
Aroclor 1242	EPA 3545/8082	6C29051	18	57	ND	1	03/29/06	03/31/06	
Aroclor 1248	EPA 3545/8082	6C29051	11	57	ND	1	03/29/06	03/31/06	
Aroclor 1254	EPA 3545/8082	6C29051	18	57	71	1	03/29/06	03/31/06	J
Aroclor 1260	EPA 3545/8082	6C29051	28	57	ND	1	03/29/06	03/31/06	R
Surrogate: Decachlorobiphenyl (45-120%)					*79 %*				
Sample ID: IPB1429-23 (MJ635 - Soil)									H4
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6C28048	16	85	ND	1.5	03/28/06	03/29/06	WC H
Aroclor 1221	EPA 3545/8082	6C28048	22	85	ND	1.5	03/28/06	03/29/06	
Aroclor 1232	EPA 3545/8082	6C28048	10	85	ND	1.5	03/28/06	03/29/06	
Aroclor 1242	EPA 3545/8082	6C28048	27	85	ND	1.5	03/28/06	03/29/06	
Aroclor 1248	EPA 3545/8082	6C28048	17	85	ND	1.5	03/28/06	03/29/06	
Aroclor 1254	EPA 3545/8082	6C28048	27	85	**110**	1.5	03/28/06	03/29/06	J A-01
Aroclor 1260	EPA 3545/8082	6C28048	43	85	**180**	1.5	03/28/06	03/29/06	A-01
Surrogate: Decachlorobiphenyl (45-120%)					*90 %*				
Sample ID: IPB1429-24 (MJ636 - Soil)									H4
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6C29051	11	59	ND	1	03/29/06	03/31/06	R C H
Aroclor 1221	EPA 3545/8082	6C29051	15	59	ND	1	03/29/06	03/31/06	
Aroclor 1232	EPA 3545/8082	6C29051	7.1	59	ND	1	03/29/06	03/31/06	
Aroclor 1242	EPA 3545/8082	6C29051	19	59	ND	1	03/29/06	03/31/06	
Aroclor 1248	EPA 3545/8082	6C29051	12	59	ND	1	03/29/06	03/31/06	
Aroclor 1254	EPA 3545/8082	6C29051	19	59	ND	1	03/29/06	03/31/06	
Aroclor 1260	EPA 3545/8082	6C29051	30	59	ND	1	03/29/06	03/31/06	
Surrogate: Decachlorobiphenyl (45-120%)					*94 %*				

Qual Code

Rev 2 AM 5/17/06

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B 120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB1429-14 (MJ622 - Soil)					**Sampled: 02/14/06**				
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6B22048	100	540	ND	10	02/22/06	02/23/06	U
Aroclor 1221	EPA 3545/8082	6B22048	140	540	ND	10	02/22/06	02/23/06	
Aroclor 1232	EPA 3545/8082	6B22048	65	540	ND	10	02/22/06	02/23/06	
Aroclor 1242	EPA 3545/8082	6B22048	170	540	ND	10	02/22/06	02/23/06	
Aroclor 1248	EPA 3545/8082	6B22048	110	540	ND	10	02/22/06	02/23/06	
Aroclor 1254	EPA 3545/8082	6B22048	170	540	ND	10	02/22/06	02/23/06	
Aroclor 1260	EPA 3545/8082	6B22048	270	540	**6300**	10	02/22/06	02/23/06	
Surrogate: Decachlorobiphenyl (45-120%)					*21 %*				Z3
Sample ID: IPB1429-16 (MJ628 - Soil)					**Sampled: 02/14/06**				
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6B22048	10	53	ND	1	02/22/06	02/22/06	U
Aroclor 1221	EPA 3545/8082	6B22048	14	53	ND	1	02/22/06	02/22/06	
Aroclor 1232	EPA 3545/8082	6B22048	6.4	53	ND	1	02/22/06	02/22/06	
Aroclor 1242	EPA 3545/8082	6B22048	17	53	ND	1	02/22/06	02/22/06	
Aroclor 1248	EPA 3545/8082	6B22048	11	53	ND	1	02/22/06	02/22/06	
Aroclor 1254	EPA 3545/8082	6B22048	17	53	**430**	1	02/22/06	02/22/06	
Aroclor 1260	EPA 3545/8082	6B22048	27	53	ND	1	02/22/06	02/22/06	U
Surrogate: Decachlorobiphenyl (45-120%)					*66 %*				
Sample ID: IPB1429-17 (MJ629 - Soil)					**Sampled: 02/14/06**				
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6B22048	16	82	ND	1.5	02/22/06	02/22/06	U
Aroclor 1221	EPA 3545/8082	6B22048	21	82	ND	1.5	02/22/06	02/22/06	
Aroclor 1232	EPA 3545/8082	6B22048	9.8	82	ND	1.5	02/22/06	02/22/06	
Aroclor 1242	EPA 3545/8082	6B22048	26	82	ND	1.5	02/22/06	02/22/06	
Aroclor 1248	EPA 3545/8082	6B22048	16	82	ND	1.5	02/22/06	02/22/06	
Aroclor 1254	EPA 3545/8082	6B22048	26	82	**160**	1.5	02/22/06	02/22/06	
Aroclor 1260	EPA 3545/8082	6B22048	41	82	ND	1.5	02/22/06	02/22/06	U
Surrogate: Decachlorobiphenyl (45-120%)					*65 %*				

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
4320 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB1429-18 (MJ630 - Soil)					**Sampled: 02/14/06**				
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6B22048	10	54	ND	1	02/22/06	02/22/06	
Aroclor 1221	EPA 3545/8082	6B22048	14	54	ND	1	02/22/06	02/22/06	
Aroclor 1232	EPA 3545/8082	6B22048	6.4	54	ND	1	02/22/06	02/22/06	
Aroclor 1242	EPA 3545/8082	6B22048	17	54	ND	1	02/22/06	02/22/06	
Aroclor 1248	EPA 3545/8082	6B22048	11	54	ND	1	02/22/06	02/22/06	
Aroclor 1254	EPA 3545/8082	6B22048	17	54	ND	1	02/22/06	02/22/06	
Aroclor 1260	EPA 3545/8082	6B22048	27	54	ND	1	02/22/06	02/22/06	
Surrogate: Decachlorobiphenyl (45-120%)					*96 %*				
Sample ID: IPB1429-19 (MJ631 - Soil)					**Sampled: 02/14/06**				
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6B22048	10	53	ND	1	02/22/06	02/22/06	
Aroclor 1221	EPA 3545/8082	6B22048	14	53	ND	1	02/22/06	02/22/06	
Aroclor 1232	EPA 3545/8082	6B22048	6.4	53	ND	1	02/22/06	02/22/06	
Aroclor 1242	EPA 3545/8082	6B22048	17	53	ND	1	02/22/06	02/22/06	
Aroclor 1248	EPA 3545/8082	6B22048	11	53	ND	1	02/22/06	02/22/06	
Aroclor 1254	EPA 3545/8082	6B22048	17	53	ND	1	02/22/06	02/22/06	
Aroclor 1260	EPA 3545/8082	6B22048	27	53	ND	1	02/22/06	02/22/06	
Surrogate: Decachlorobiphenyl (45-120%)					*76 %*				
Sample ID: IPB1429-20 (MJ632 - Water)					**Sampled: 02/14/06**				**RL-4**
Reporting Units: ug/l									
Aroclor 1016	EPA 3510/8082	6B21048	0.21	1.1	ND	1.05	02/21/06	02/21/06	
Aroclor 1221	EPA 3510/8082	6B21048	0.11	1.1	ND	1.05	02/21/06	02/21/06	
Aroclor 1232	EPA 3510/8082	6B21048	0.26	1.1	ND	1.05	02/21/06	02/21/06	
Aroclor 1242	EPA 3510/8082	6B21048	0.26	1.1	ND	1.05	02/21/06	02/21/06	
Aroclor 1248	EPA 3510/8082	6B21048	0.26	1.1	ND	1.05	02/21/06	02/21/06	
Aroclor 1254	EPA 3510/8082	6B21048	0.26	1.1	ND	1.05	02/21/06	02/21/06	
Aroclor 1260	EPA 3510/8082	6B21048	0.42	1.1	ND	1.05	02/21/06	02/21/06	
Surrogate: Decachlorobiphenyl (45-120%)					*78 %*				

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

Level IV

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

12269 East Vassar Drive, Aurora, CO 80014
720.535.5502, Fax 720.535.7555

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, Group 6 Data Gap
Project Manager:	D. Hambrick
Analysis/Method:	PCBs by EPA Method 8082
QC Level:	V[1]
SDG:	IPD1011
Matrix:	Soil
No. of Samples:	4
No. of Reanalyses/Dilutions:	0
Date Reviewed:	May 9, 2006
Reviewer:	P. Meeks
Reference:	USEPA *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (2/94)
Samples Reviewed:	MJ724, MJ728, MJ734, MJ775

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received at Del Mar within the temperature limits of 4° ±2°C, at 6°C. The COC was signed and dated by field and laboratory personnel. Per a memo from MWH personnel dated 4/12/06, the EPA ID of MJ723 was changed to MJ775. As per a memo from MWH personnel dated 4/14/06, PCB analyses were requested for MJ724, MJ734, and MJ775. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The soil samples were extracted within 14 days of collection and all samples were analyzed within 40 days of extraction.	No qualifications were required.

	Findings	Qualifications
4. Method Blanks 6D24049-BLK1 6D18090-BLK1 6D21050-BLK1	There were no Aroclors detected in the method blanks.	No qualifications were required.
5. LCS/BS 6D24049-BS2 6D18090-BS2 6D21050-BS1	The recoveries and the RPD for Aroclor 1016 and Aroclor 1260 were within the laboratory-established QC limits.	No qualifications were required.
6. Surrogates	The surrogate recoveries were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs None	None	None
9. Field QC Samples FB: MJ813 (IPD1477) ER: MJ812 (IPD1477) FD: None	There were no target compound detects in the field QC samples.	No qualifications were required.
10. Other	Due to the presence of nontarget compounds, all samples in this SDG were reported from 3× dilutions. The soil samples were reported on a dry-weight basis in units of µg/Kg.	None.
Comments	None.	None.

[1] Level V validation consists of cursory review of the summary forms only; 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 included instrument performance, analytical sequence, initial calibration, continuing calibration, instrument blanks, sample clean-up performance, compound identification, and compound quantification.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPD1011

Sampled: 04/10/06
Received: 04/10/06

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1011-01 (MJ775 - Soil)									**RL-1**
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6D24049	35	190	ND	3	04/24/06	04/25/06	U
Aroclor 1221	EPA 3545/8082	6D24049	48	190	ND	3	04/24/06	04/25/06	
Aroclor 1232	EPA 3545/8082	6D24049	22	190	ND	3	04/24/06	04/25/06	
Aroclor 1242	EPA 3545/8082	6D24049	59	190	ND	3	04/24/06	04/25/06	
Aroclor 1248	EPA 3545/8082	6D24049	37	190	ND	3	04/24/06	04/25/06	
Aroclor 1254	EPA 3545/8082	6D24049	59	190	ND	3	04/24/06	04/25/06	
Aroclor 1260	EPA 3545/8082	6D24049	93	190	ND	3	04/24/06	04/25/06	
Surrogate: Decachlorobiphenyl (45-120%)					*81 %*				
Sample ID: IPD1011-02 (MJ724 - Soil)									**RL-1**
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6D24049	37	200	ND	3	04/24/06	04/25/06	
Aroclor 1221	EPA 3545/8082	6D24049	51	200	ND	3	04/24/06	04/25/06	
Aroclor 1232	EPA 3545/8082	6D24049	23	200	ND	3	04/24/06	04/25/06	
Aroclor 1242	EPA 3545/8082	6D24049	62	200	ND	3	04/24/06	04/25/06	
Aroclor 1248	EPA 3545/8082	6D24049	39	200	ND	3	04/24/06	04/25/06	
Aroclor 1254	EPA 3545/8082	6D24049	62	200	ND	3	04/24/06	04/25/06	
Aroclor 1260	EPA 3545/8082	6D24049	98	200	ND	3	04/24/06	04/25/06	
Surrogate: Decachlorobiphenyl (45-120%)					*77 %*				
Sample ID: IPD1011-06 (MJ728 - Soil)									**RL-1**
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6D18090	44	230	ND	2.99	04/18/06	04/19/06	
Aroclor 1221	EPA 3545/8082	6D18090	60	230	ND	2.99	04/18/06	04/19/06	
Aroclor 1232	EPA 3545/8082	6D18090	28	230	ND	2.99	04/18/06	04/19/06	
Aroclor 1242	EPA 3545/8082	6D18090	74	230	ND	2.99	04/18/06	04/19/06	C
Aroclor 1248	EPA 3545/8082	6D18090	46	230	ND	2.99	04/18/06	04/19/06	
Aroclor 1254	EPA 3545/8082	6D18090	74	230	ND	2.99	04/18/06	04/19/06	
Aroclor 1260	EPA 3545/8082	6D18090	120	230	ND	2.99	04/18/06	04/19/06	
Surrogate: Decachlorobiphenyl (45-120%)					*69 %*				

Raw Qual | Qual Code

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

LEVEL V

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Del Mar Analytical

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPD1011

Sampled: 04/10/06
Received: 04/10/06

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1011-12 (MJ734 - Soil)									RL-1 Qual Code
Reporting Units: ug/kg dry									
Aroclor 1016	EPA 3545/8082	6D21050	41	210	ND	3	04/21/06	04/21/06	U
Aroclor 1221	EPA 3545/8082	6D21050	56	210	ND	3	04/21/06	04/21/06	
Aroclor 1232	EPA 3545/8082	6D21050	26	210	ND	3	04/21/06	04/21/06	
Aroclor 1242	EPA 3545/8082	6D21050	68	210	ND	3	04/21/06	04/21/06	
Aroclor 1248	EPA 3545/8082	6D21050	43	210	ND	3	04/21/06	04/21/06	
Aroclor 1254	EPA 3545/8082	6D21050	68	210	ND	3	04/21/06	04/21/06	
Aroclor 1260	EPA 3545/8082	6D21050	110	210	ND	3	04/21/06	04/21/06	
Surrogate: Decachlorobiphenyl (45-120%)					*68 %*				

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

Level V

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

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

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, SSFL Group 6 Data Gap
Project Manager:	D. Hambrick
Analysis/Method:	PAHs by Method 8270C/SIM
QC Level:	V[1]
SDG:	IPB1429
Matrix:	Soil/Water
No. of Samples:	6
No. of Reanalyses:	0
Date Reviewed:	March 13, 2006
Reviewer:	L. Calvin
Reference:	USEPA *Contract Laboratory Program National Functional Guidelines For Organic Data Review* (2/94)
Samples Reviewed:	MJ608, MJ610, MJ615, MJ619, MJ620, MJ621

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received at Del Mar within the temperature limits of 4°±2°C, at 5°C, and received at Calscience at 3°C. The original COC was signed and dated by field and laboratory personnel and accounted for the analyses presented in this SDG. One of seven samples for PAH analysis on the COC was on a "hold" status. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The transfer COC was signed by personnel from both laboratories. The soil samples were extracted within 14 days and the water sample within seven days of collection, and all samples were analyzed within 40 days of extraction.	No qualifications were required.
4. Method Blanks 060220L18-MB (soil) 060217L07-MB (water)	There were no target compounds detected in the associated method blanks.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS 060220L18- LCS/LCSD 060217L07- LCS/LCSD	The recoveries and RPDs for spiked compounds acenaphthene and pyrene 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 MJ608	The recoveries and RPDs for spiked compounds acenaphthene and pyrene were within the laboratory-established QC limits.	No qualifications were required.
9.Field QC Samples FB: None ER: MJ615 FD: None	The equipment rinsate had no target compound detects.	No qualifications were required.
10. Other	Sample results were reported in units of mg/Kg (ppm) on a dry-weight basis for the soils, and µg/L (ppb) for the water sample.	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.

Calscience Environmental Laboratories, Inc.

Analytical Report

Del Mar Analytical		Date Received:	02/17/06
17461 Derian Avenue, Suite 100		Work Order No:	06-02-0940
Irvine, CA 92614-5845		Preparation:	EPA 3545
		Method:	EPA 8270C SIM PAHs
		Units:	mg/kg
Project: IPB1429			Page 1 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
IPB1429-01	06-02-0940-1	02/13/06	Solid	02/20/06	02/23/06	060220L18

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
Naphthalene	ND	0.023	0.0043	1.15		Benzo (a) Anthracene	ND	0.023	0.0030	1.15	
2-Methylnaphthalene	ND	0.023	0.0027	1.15		Chrysene	ND	0.023	0.0054	1.15	
Acenaphthylene	ND	0.023	0.0028	1.15		Benzo (k) Fluoranthene	ND	0.023	0.0052	1.15	
Acenaphthene	ND	0.023	0.0058	1.15		Benzo (b) Fluoranthene	ND	0.023	0.0016	1.15	
Fluorene	ND	0.023	0.0035	1.15		Benzo (a) Pyrene	ND	0.023	0.0023	1.15	
Phenanthrene	ND	0.023	0.0044	1.15		Benzo (g,h,i) Perylene	ND	0.023	0.0038	1.15	
Anthracene	ND	0.023	0.0071	1.15		Indeno (1,2,3-c,d) Pyrene	ND	0.023	0.0040	1.15	
Fluoranthene	ND	0.023	0.0022	1.15		Dibenz (a,h) Anthracene	ND	0.023	0.0031	1.15	
Pyrene	ND	0.023	0.0038	1.15		1-Methylnaphthalene	ND	0.023	0.0049	1.15	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Nitrobenzene-d5	84	28-139				2-Fluorobiphenyl	84	33-144			
p-Terphenyl-d14	97	23-160									

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
IPB1429-03	06-02-0940-2	02/13/06	Solid	02/20/06	02/23/06	060220L18

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
Naphthalene	ND	0.022	0.0040	1.09		Benzo (a) Anthracene	ND	0.022	0.0028	1.09	
2-Methylnaphthalene	ND	0.022	0.0026	1.09		Chrysene	ND	0.022	0.0051	1.09	
Acenaphthylene	ND	0.022	0.0026	1.09		Benzo (k) Fluoranthene	ND	0.022	0.0049	1.09	
Acenaphthene	ND	0.022	0.0054	1.09		Benzo (b) Fluoranthene	ND	0.022	0.0015	1.09	
Fluorene	ND	0.022	0.0033	1.09		Benzo (a) Pyrene	ND	0.022	0.0021	1.09	
Phenanthrene	ND	0.022	0.0041	1.09		Benzo (g,h,i) Perylene	ND	0.022	0.0036	1.09	
Anthracene	ND	0.022	0.0067	1.09		Indeno (1,2,3-c,d) Pyrene	ND	0.022	0.0038	1.09	
Fluoranthene	ND	0.022	0.0021	1.09		Dibenz (a,h) Anthracene	ND	0.022	0.0029	1.09	
Pyrene	ND	0.022	0.0035	1.09		1-Methylnaphthalene	ND	0.022	0.0047	1.09	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Nitrobenzene-d5	76	28-139				2-Fluorobiphenyl	80	33-144			
p-Terphenyl-d14	94	23-160									

Level IV

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Del Mar Analytical
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5845

Date Received: 02/17/06
Work Order No: 06-02-0940
Preparation: EPA 3510B
Method: EPA 8270C SIM PAHs
Units: ug/L

Project: IPB1429

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
IPB1429-07	06-02-0940-3	02/13/06	Aqueous	02/17/06	02/23/06	060217L07

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
Naphthalene	ND	1.0	0.11	1		Pyrene	ND	1.0	0.13	1	
2-Methylnaphthalene	ND	1.0	0.099	1		Benzo (a) Anthracene	ND	1.0	0.22	1	
1-Methylnaphthalene	ND	1.0	0.11	1		Chrysene	ND	1.0	0.14	1	
Acenaphthylene	ND	1.0	0.17	1		Benzo (k) Fluoranthene	ND	1.0	0.35	1	
Acenaphthene	ND	1.0	0.12	1		Benzo (b) Fluoranthene	ND	1.0	0.26	1	
Fluorene	ND	1.0	0.18	1		Benzo (a) Pyrene	ND	1.0	0.15	1	
Phenanthrene	ND	1.0	0.13	1		Indeno (1,2,3-c,d) Pyrene	ND	1.0	0.18	1	
Anthracene	ND	1.0	0.18	1		Dibenz (a,h) Anthracene	ND	1.0	0.22	1	
Fluoranthene	ND	1.0	0.15	1		Benzo (g,h,i) Perylene	ND	1.0	0.15	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Nitrobenzene-d5	70	28-139				2-Fluorobiphenyl	87	33-144			
p-Terphenyl-d14	90	23-160									

Method Blank	099-06-008-19	N/A	Aqueous	02/17/06	02/23/06	060217L07

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
Naphthalene	ND	1.0	0.11	1		Pyrene	ND	1.0	0.13	1	
2-Methylnaphthalene	ND	1.0	0.099	1		Benzo (a) Anthracene	ND	1.0	0.22	1	
1-Methylnaphthalene	ND	1.0	0.11	1		Chrysene	ND	1.0	0.14	1	
Acenaphthylene	ND	1.0	0.17	1		Benzo (k) Fluoranthene	ND	1.0	0.35	1	
Acenaphthene	ND	1.0	0.12	1		Benzo (b) Fluoranthene	ND	1.0	0.26	1	
Fluorene	ND	1.0	0.18	1		Benzo (a) Pyrene	ND	1.0	0.15	1	
Phenanthrene	ND	1.0	0.13	1		Indeno (1,2,3-c,d) Pyrene	ND	1.0	0.18	1	
Anthracene	ND	1.0	0.18	1		Dibenz (a,h) Anthracene	ND	1.0	0.22	1	
Fluoranthene	ND	1.0	0.15	1		Benzo (g,h,i) Perylene	ND	1.0	0.15	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Nitrobenzene-d5	89	28-139				2-Fluorobiphenyl	89	33-144			
p-Terphenyl-d14	112	23-160									

* Not validated.

Level IV

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Del Mar Analytical
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5845

Date Received: 02/17/06
Work Order No: 06-02-0940
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: IPB1429

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
IPB1429-11	06-02-0940-10	02/14/06	Solid	02/20/06	02/23/06	060220L18

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
Naphthalene	ND	0.023	0.0042	1.13		Benzo (a) Anthracene	ND	0.023	0.0029	1.13	
2-Methylnaphthalene	ND	0.023	0.0027	1.13		Chrysene	0.027	0.023	0.0053	1.13	
Acenaphthylene	ND	0.023	0.0027	1.13		Benzo (k) Fluoranthene	ND	0.023	0.0051	1.13	
Acenaphthene	ND	0.023	0.0056	1.13		Benzo (b) Fluoranthene	ND	0.023	0.0016	1.13	
Fluorene	ND	0.023	0.0034	1.13		Benzo (a) Pyrene	ND	0.023	0.0022	1.13	
Phenanthrene	ND	0.023	0.0043	1.13		Benzo (g,h,i) Perylene	ND	0.023	0.0037	1.13	
Anthracene	ND	0.023	0.0070	1.13		Indeno (1,2,3-c,d) Pyrene	ND	0.023	0.0039	1.13	
Fluoranthene	0.028	0.023	0.0022	1.13		Dibenz (a,h) Anthracene	ND	0.023	0.0030	1.13	
Pyrene	0.029	0.023	0.0037	1.13		1-Methylnaphthalene	ND	0.023	0.0048	1.13	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	82	28-139		2-Fluorobiphenyl	85	33-144	
p-Terphenyl-d14	100	23-160					

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
IPB1429-12	06-02-0940-11	02/14/06	Solid	02/20/06	02/23/06	060220L18

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
Naphthalene	ND	0.022	0.0040	1.08		Benzo (a) Anthracene	ND	0.022	0.0028	1.08	
2-Methylnaphthalene	ND	0.022	0.0026	1.08		Chrysene	ND	0.022	0.0051	1.08	
Acenaphthylene	ND	0.022	0.0026	1.08		Benzo (k) Fluoranthene	ND	0.022	0.0048	1.08	
Acenaphthene	ND	0.022	0.0054	1.08		Benzo (b) Fluoranthene	ND	0.022	0.0015	1.08	
Fluorene	ND	0.022	0.0033	1.08		Benzo (a) Pyrene	ND	0.022	0.0021	1.08	
Phenanthrene	ND	0.022	0.0041	1.08		Benzo (g,h,i) Perylene	ND	0.022	0.0035	1.08	
Anthracene	ND	0.022	0.0067	1.08		Indeno (1,2,3-c,d) Pyrene	ND	0.022	0.0037	1.08	
Fluoranthene	ND	0.022	0.0021	1.08		Dibenz (a,h) Anthracene	ND	0.022	0.0029	1.08	
Pyrene	ND	0.022	0.0035	1.08		1-Methylnaphthalene	ND	0.022	0.0046	1.08	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	109	28-139		2-Fluorobiphenyl	106	33-144	
p-Terphenyl-d14	100	23-160					

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Del Mar Analytical
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5845

Date Received: 02/17/06
Work Order No: 06-02-0940
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: IPB1429

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
IPB1429-13	06-02-0940-12	02/14/06	Solid	02/20/06	02/23/06	060220L18

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
Naphthalene	ND	0.024	0.0044	1.19		Benzo (a) Anthracene	ND	0.024	0.0031	1.19	
2-Methylnaphthalene	ND	0.024	0.0028	1.19		Chrysene	ND	0.024	0.0056	1.19	
Acenaphthylene	ND	0.024	0.0029	1.19		Benzo (k) Fluoranthene	ND	0.024	0.0054	1.19	
Acenaphthene	ND	0.024	0.0060	1.19		Benzo (b) Fluoranthene	ND	0.024	0.0017	1.19	
Fluorene	ND	0.024	0.0036	1.19		Benzo (a) Pyrene	ND	0.024	0.0023	1.19	
Phenanthrene	ND	0.024	0.0045	1.19		Benzo (g,h,i) Perylene	ND	0.024	0.0039	1.19	
Anthracene	ND	0.024	0.0074	1.19		Indeno (1,2,3-c,d) Pyrene	ND	0.024	0.0041	1.19	
Fluoranthene	ND	0.024	0.0023	1.19		Dibenz (a,h) Anthracene	ND	0.024	0.0032	1.19	
Pyrene	ND	0.024	0.0039	1.19		1-Methylnaphthalene	ND	0.024	0.0051	1.19	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Nitrobenzene-d5	103	28-139				2-Fluorobiphenyl	87	33-144			
p-Terphenyl-d14	98	23-160									

Method Blank	099-06-010-71	N/A	Solid	02/20/06	02/23/06	060220L18

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
Naphthalene	ND	0.020	0.0037	1		Benzo (a) Anthracene	ND	0.020	0.0026	1	
2-Methylnaphthalene	ND	0.020	0.0024	1		Chrysene	ND	0.020	0.0047	1	
Acenaphthylene	ND	0.020	0.0024	1		Benzo (k) Fluoranthene	ND	0.020	0.0045	1	
Acenaphthene	ND	0.020	0.0050	1		Benzo (b) Fluoranthene	ND	0.020	0.0014	1	
Fluorene	ND	0.020	0.0031	1		Benzo (a) Pyrene	ND	0.020	0.0020	1	
Phenanthrene	ND	0.020	0.0038	1		Benzo (g,h,i) Perylene	ND	0.020	0.0033	1	
Anthracene	ND	0.020	0.0062	1		Indeno (1,2,3-c,d) Pyrene	ND	0.020	0.0035	1	
Fluoranthene	ND	0.020	0.0019	1		Dibenz (a,h) Anthracene	ND	0.020	0.0027	1	
Pyrene	ND	0.020	0.0033	1		1-Methylnaphthalene	ND	0.020	0.0043	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Nitrobenzene-d5	66	28-139				2-Fluorobiphenyl	89	33-144			
p-Terphenyl-d14	88	23-160									

* Not validated.

LEVEL V

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

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

DATA ASSESSMENT FORM

Project Title: Boeing SSFL RFI, Group 6 Data Gap
Project Manager: D. Hambrick
Analysis/Method: NDMA by Method 1625C
QC Level: V[1]
SDG: IPB1429
Matrix: Soil/Water
No. of Samples: 6
No. of Reanalyses: 0
Date Reviewed: March 13, 2006
Reviewer: L. Calvin
Reference: USEPA *Contract Laboratory Program National Functional Guidelines For Organic Data Review* (2/94)
Samples Reviewed: MJ608, MJ610, MJ615, MJ619, MJ620, MJ621

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received at Del Mar within the temperature limits of 4°±2°C, at 5°C. The COC was signed and dated by field and laboratory personnel and accounted for the analyses presented in this SDG. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The soil samples were extracted within 14 days and the water sample within seven days of collection. All samples were analyzed within 40 days of extraction.	No qualifications were required.
4. Method Blanks 6B19073-MB (soil) 6B20118-MB (water)	NDMA was detected between the MDL and reporting limit at 0.174 µg/Kg in the associated soil method blank, and above the reporting limit at 0.0147µg/L in the water method blank. There were no NDMA detects in the soil samples. NDMA was detected in the water sample at a concentration less than five times the method blank concentration.	The detect above the reporting limit for NDMA in water sample MJ615 was qualified as an estimated nondetect, "UJ," at the level of contamination.

	Findings	Qualifications
5. LCS/BS 6B19073-BS1 (soil) 6B20118-BS1/BSD1, BS2 (water)	The recovery for NDMA in the soil blank spike was within the laboratory-established QC limits. All recoveries in the water low-level BS1/BSD1 pair and BS2 were above the QC limits; however, NDMA was not reportable in the water sample (see section 4). The RPD was within the QC limit.	No qualifications were required.
6. Surrogates	Surrogates were not utilized for this analysis.	No qualifications were required.
7. MS/MSDs MJ610	The recoveries and RPD for NDMA were within the laboratory-established QC limits.	No qualifications were required.
9. Field QC Samples FB: None ER: MJ615 FD: None	NDMA was originally detected in the equipment rinsate; however, the result was subsequently qualified as an estimated nondetect for blank contamination (see section 4).	No qualifications were required.
10. Other	According to the sample result summary, samples MJ608 and MJ619 were analyzed at 4× dilutions, and samples MJ620 and MJ621 were analyzed at 2× dilutions; however according to the raw data, all of the aforementioned samples were analyzed at 2× dilutions. A notation on the raw data noted the dilutions were based on dark extract color; however, the chromatograms showed no evidence of matrix interference. Sample results were reported in units of µg/Kg on a dry-weight basis for the soils, and µg/L for the water sample.	Affected sample reporting limits and MDLs were manually corrected on the sample result summary by the reviewer.
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 performance, initial and continuing calibrations, compound identification, and compound quantification.

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Del Mar Analytical

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

SEMI-VOL ORGANICS by GC/MS-CHEMICAL IONIZATION (EPA 3520C/1625C-CI MOD)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB1429-01 (MJ608 - Soil)					**Sampled: 02/13/06**				RL-1
Reporting Units: ug/kg dry									
N-Nitrosodimethylamine	EPA 1625C-CI Mod	6B19073	0.29 ~~0.55~~	7.0 ~~14~~	ND	2.34 ~~3.99~~	02/20/06	02/25/06	U
Sample ID: IPB1429-03 (MJ610 - Soil)					**Sampled: 02/13/06**				
Reporting Units: ug/kg dry									
N-Nitrosodimethylamine	EPA 1625C-CI Mod	6B19073	0.13	3.2	ND	1	02/20/06	02/25/06	U
Sample ID: IPB1429-11 (MJ619 - Soil)					**Sampled: 02/14/06**				RL-1
Reporting Units: ug/kg dry									
N-Nitrosodimethylamine	EPA 1625C-CI Mod	6B19073	0.27 ~~0.55~~	6.8 ~~14~~	ND	2.27 ~~4~~	02/20/06	02/25/06	U
Sample ID: IPB1429-12 (MJ620 - Soil)					**Sampled: 02/14/06**				RL-1
Reporting Units: ug/kg dry									
N-Nitrosodimethylamine	EPA 1625C-CI Mod	6B19073	0.26	6.4	ND	2.15 ~~2~~	02/20/06	02/25/06	U
Sample ID: IPB1429-13 (MJ621 - Soil)					**Sampled: 02/14/06**				RL-1
Reporting Units: ug/kg dry									
N-Nitrosodimethylamine	EPA 1625C-CI Mod	6B19073	0.29	7.2	ND	2.41 ~~2~~	02/20/06	02/25/06	U
Sample ID: IPB1429-07 (MJ615 - Water)					**Sampled: 02/13/06**				
Reporting Units: ug/l									
N-Nitrosodimethylamine	EPA 1625C-CI Mod	6B20118	0.00019	0.0019	0.015	0.952	02/20/06	02/21/06	UJ B, L1

MC 03.14.04

Level V

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

12269 East Vassar Drive, Aurora, CO 80014
720.535.5502, Fax 720.535.7555

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, Group 6 Data Gap
Project Manager:	D. Hambrick
Analysis/Method:	Metals by EPA 6010B, 6020, and 7471A
QC Level:	V[1]
SDG:	IPD1108
Matrix:	Soil
No. of Samples:	12
No. of Reanalyses:	0
Date Reviewed:	May 5, 2006
Reviewer:	P. Meeks
Reference:	USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (2/94)
Samples Reviewed:	MJ739, MJ740, MJ741, MJ742, MJ743, MJ744, MJ745, MJ770, MJ771, MJ772, MJ773, MJ774

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the temperature limits of $4^{o}\pm2^{o}$C, at 3°C. The COC was signed and dated by field and laboratory personnel and accounted for the samples and analyses presented in this SDG. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The 6-month ICP and ICP-MS metals and the 28 day mercury analytical holding times were met.	No qualifications were required.

	Findings	Qualifications
3. Method Blanks 6D20107-BLK1 6D20105-BLK1 6D20073-BLK1	Beryllium, selenium, molybdenum, thallium, silver, cadmium, and antimony were reported n the method blank at -0.25, -0.48, -0.40, -0.35, -0.045, -0.26, and -0.47 mg/kg. Mercury was reported in a bracketing CCB at -0.044 mg/kg. Antimony was detected in a bracketing CCB at 0.318 µg/L.	Beryllium, selenium, molybdenum, and thallium detected in the samples were qualified as estimated, "J," for detects and "UJ," for nondetects. Silver and antimony detected in MJ739 were qualified as estimated, "J," for detects and "UJ," for nondetects" Cadmium detected in MJ739 and MJ745 were qualified as estimated, "J." Mercury detected in MJ739 was qualified as estimated, "J." Antimony detected in MJ744 and MJ745 was qualified as estimated, "UJ."
5. LCS/BS 6D20107-BS1 6D20105-BS1 6D20073-BS1	All recoveries were within the laboratory-established control limits.	No qualifications were required.
6. Duplicates None	None	None
7. MS/MSDs MJ739 (no mercury) MJ744 (mercury only)	Barium was recovered below the control limit in MS only and antimony and zinc were recovered below the control limit in both the MS and the MSD.	Barium, antimony, and zinc in the samples was qualified as estimated, "J," for detects and, "UJ," for nondetects.
10. Other	None	None
11. Field QC Samples Field blanks: MJ813 (IPD1477) Equipment rinsates: MJ812 (IPD1477) Field duplicates: MJ773/MJ774	Barium, chromium, copper, lead, and zinc were detected in MJ812 at 1.7, 1.7, 29, 4.0, 370 µg/L, respectively. Chromium, copper, lead, and zinc were detected in MJ813 at 0.6, 2.3, 0.44, 46 µg/L, respectively. Mercury was detected in both field duplicate samples with an RPD ≤100%.	Copper and zinc in all samples were qualified as estimated, "J."
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only, 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 initial and continuing calibration, continuing calibration blanks, interference check samples (ICSA/ICSAB), and serial dilutions.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPD1108

Sampled: 04/11/06
Received: 04/11/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Qual Code
Sample ID: IPD1108-01 (MJ739 - Soil)										
Reporting Units: mg/kg dry										
Aluminum	EPA 6010B	6D20107	5.6	11	**13000**	1	04/20/06	04/20/06	M-HA	
Antimony	EPA 6020	6D20105	0.034	1.1	ND	1	04/20/06	04/26/06	M2 U	B, Q
Arsenic	EPA 6020	6D20105	0.28	0.56	**3.4**	1	04/20/06	04/26/06		
Barium	EPA 6020	6D20105	0.090	0.56	**110**	1	04/20/06	04/26/06	J M2	Q
Beryllium	EPA 6020	6D20105	0.045	0.34	**0.46**	1	04/20/06	04/26/06	J	B
Boron	EPA 6010B	6D20107	1.1	5.6	**2.5**	1	04/20/06	04/20/06	J	
Cadmium	EPA 6020	6D20105	0.022	0.56	**0.12**	1	04/20/06	04/26/06	J J	B, K
Chromium	EPA 6020	6D20105	0.34	1.1	**21**	1	04/20/06	04/26/06		
Cobalt	EPA 6020	6D20105	0.022	0.56	**7.7**	1	04/20/06	04/26/06		
Copper	EPA 6020	6D20105	0.22	1.1	**13**	1	04/20/06	04/26/06	J	F
Lead	EPA 6020	6D20105	0.022	0.56	**14**	1	04/20/06	04/26/06		
Mercury	EPA 7471A	6D20073	0.0034	0.022	**0.0060**	1	04/20/06	04/20/06	J J	B
Molybdenum	EPA 6020	6D20105	0.11	1.1	**0.49**	1	04/20/06	04/26/06	J	
Nickel	EPA 6020	6D20105	0.22	1.1	**14**	1	04/20/06	04/26/06		K
Selenium	EPA 6020	6D20105	0.22	1.1	ND	1	04/20/06	04/26/06	U	B
Silver	EPA 6020	6D20105	0.022	0.56	**0.13**	1	04/20/06	04/26/06	J J	B
Thallium	EPA 6020	6D20105	0.11	0.56	**0.35**	1	04/20/06	04/26/06	J J	B
Vanadium	EPA 6020	6D20105	0.45	1.1	**38**	1	04/20/06	04/26/06		
Zinc	EPA 6020	6D20105	0.56	11	**53**	1	04/20/06	04/26/06	M2 J	F, Q
Sample ID: IPD1108-02 (MJ740 - Soil)										
Reporting Units: mg/kg dry										
Silver	EPA 6020	6D20105	0.024	0.61	**0.34**	1	04/20/06	04/26/06	J	
Sample ID: IPD1108-03 (MJ741 - Soil)										
Reporting Units: mg/kg dry										
Silver	EPA 6020	6D20105	0.024	0.59	**0.026**	1	04/20/06	04/26/06	J	
Sample ID: IPD1108-04 (MJ742 - Soil)										
Reporting Units: mg/kg dry										
Silver	EPA 6020	6D20105	0.023	0.59	**0.061**	1	04/20/06	04/26/06	J	
Sample ID: IPD1108-05 (MJ743 - Soil)										
Reporting Units: mg/kg dry										
Silver	EPA 6020	6D20105	0.024	0.60	**0.15**	1	04/20/06	04/26/06	J	
Sample ID: IPD1108-06 (MJ744 - Soil)										
Reporting Units: mg/kg dry										
Aluminum	EPA 6010B	6D20107	6.1	12	**8300**	1	04/20/06	04/20/06		
Antimony	EPA 6020	6D20105	0.037	1.2	**0.24**	1	04/20/06	04/26/06	J U	B, Q
Arsenic	EPA 6020	6D20105	0.31	0.61	**2.0**	1	04/20/06	04/26/06		
Barium	EPA 6020	6D20105	0.098	0.61	**67**	1	04/20/06	04/26/06	J	Q
Beryllium	EPA 6020	6D20105	0.049	0.37	**0.34**	1	04/20/06	04/26/06	J J	B

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

LEVEL V

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPD1108

Sampled: 04/11/06
Received: 04/11/06

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Qual Code
Sample ID: IPD1108-06 (MJ744 - Soil) - cont.									Raw Qual	
Reporting Units: mg/kg dry										
Boron	EPA 6010B	6D20107	1.2	6.1	**4.4**	1	04/20/06	04/20/06	J	
Cadmium	EPA 6020	6D20105	0.024	0.61	**1.5**	1	04/20/06	04/26/06		
Chromium	EPA 6020	6D20105	0.37	1.2	**15**	1	04/20/06	04/26/06		
Cobalt	EPA 6020	6D20105	0.024	0.61	**4.5**	1	04/20/06	04/26/06		
Copper	EPA 6020	6D20105	0.24	1.2	**20**	1	04/20/06	04/26/06	J	F
Lead	EPA 6020	6D20105	0.024	0.61	**68**	1	04/20/06	04/26/06		
Mercury	EPA 7471A	6D20073	0.37	2.4	**23**	100	04/20/06	04/20/06		
Molybdenum	EPA 6020	6D20105	0.12	1.2	**0.86**	1	04/20/06	04/26/06	J	
Nickel	EPA 6020	6D20105	0.24	1.2	**21**	1	04/20/06	04/26/06	J	F
Selenium	EPA 6020	6D20105	0.24	1.2	ND	1	04/20/06	04/26/06	UJ	B
Silver	EPA 6020	6D20105	0.024	0.61	**2.6**	1	04/20/06	04/26/06		
Thallium	EPA 6020	6D20105	0.12	0.61	**0.18**	1	04/20/06	04/26/06	J J	B
Vanadium	EPA 6020	6D20105	0.49	1.2	**24**	1	04/20/06	04/26/06		
Zinc	EPA 6020	6D20105	0.61	12	**130**	1	04/20/06	04/26/06	J	F, Q
Sample ID: IPD1108-07 (MJ745 - Soil)										
Reporting Units: mg/kg dry										
Aluminum	EPA 6010B	6D20107	6.7	13	**8500**	1	04/20/06	04/20/06		
Antimony	EPA 6020	6D20105	0.040	1.3	**0.26**	1	04/20/06	04/26/06	UJ J	B, Q
Arsenic	EPA 6020	6D20105	0.34	0.67	**2.1**	1	04/20/06	04/26/06		
Barium	EPA 6020	6D20105	0.11	0.67	**61**	1	04/20/06	04/26/06	J	Q
Beryllium	EPA 6020	6D20105	0.054	0.40	**0.39**	1	04/20/06	04/26/06	J J	B
Boron	EPA 6010B	6D20107	1.3	6.7	**3.2**	1	04/20/06	04/20/06	J	
Cadmium	EPA 6020	6D20105	0.027	0.67	**2.0**	1	04/20/06	04/26/06	J	B
Chromium	EPA 6020	6D20105	0.40	1.3	**15**	1	04/20/06	04/26/06		
Cobalt	EPA 6020	6D20105	0.027	0.67	**4.7**	1	04/20/06	04/26/06		
Copper	EPA 6020	6D20105	0.27	1.3	**17**	1	04/20/06	04/26/06	J	F
Lead	EPA 6020	6D20105	0.027	0.67	**33**	1	04/20/06	04/26/06		
Mercury	EPA 7471A	6D20073	0.0040	0.027	**0.10**	1	04/20/06	04/20/06		
Molybdenum	EPA 6020	6D20105	0.13	1.3	**0.61**	1	04/20/06	04/26/06	J	
Nickel	EPA 6020	6D20105	0.27	1.3	**22**	1	04/20/06	04/26/06	J	F
Selenium	EPA 6020	6D20105	0.27	1.3	ND	1	04/20/06	04/26/06	UJ	B
Silver	EPA 6020	6D20105	0.027	0.67	**2.4**	1	04/20/06	04/26/06		
Thallium	EPA 6020	6D20105	0.13	0.67	**0.16**	1	04/20/06	04/26/06	J J	B
Vanadium	EPA 6020	6D20105	0.54	1.3	**25**	1	04/20/06	04/26/06		
Zinc	EPA 6020	6D20105	0.67	13	**160**	1	04/20/06	04/26/06	J	F, Q

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

LEVEL V

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPD1108

Sampled: 04/11/06
Received: 04/11/06

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1108-32 (MJ770 - Soil)									
Reporting Units: mg/kg dry									
Mercury	EPA 7471A	6D20073	0.0041	0.028	**0.036**	1	04/20/06	04/20/06	
Sample ID: IPD1108-33 (MJ771 - Soil)									
Reporting Units: mg/kg dry									
Mercury	EPA 7471A	6D20073	0.0037	0.025	**0.72**	1	04/20/06	04/20/06	
Sample ID: IPD1108-34 (MJ772 - Soil)									
Reporting Units: mg/kg dry									
Mercury	EPA 7471A	6D20073	0.0039	0.026	**0.034**	1	04/20/06	04/20/06	
Sample ID: IPD1108-35 (MJ773 - Soil)									
Reporting Units: mg/kg dry									
Mercury	EPA 7471A	6D20073	0.0040	0.026	**0.058**	1	04/20/06	04/20/06	
Sample ID: IPD1108-36 (MJ774 - Soil)									
Reporting Units: mg/kg dry									
Mercury	EPA 7471A	6D20073	0.0037	0.025	**0.059**	1	04/20/06	04/20/06	

Qual Qual Code

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

Level V

12269 East Vassar Drive, Aurora, CO 80014
720.535.5502, Fax 720.535.7555

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, Group 6 Data Gap
Project Manager:	D. Hambrick
Analysis/Method:	Lead by EPA 6020
QC Level:	V[1]
SDG:	IPD1011
Matrix:	Soil
No. of Samples:	3
No. of Reanalyses:	0
Date Reviewed:	May 5, 2006
Reviewer:	P. Meeks
Reference:	USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (2/94)
Samples Reviewed:	MJ729, MJ730, MJ734

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the temperature limits of 4°±2°C, at 6°C. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The 6-month ICP-MS metal analytical holding time was met.	No qualifications were required.
3. Method Blanks 6D14096-BLK1	Lead was not detected in the associated method blank.	No qualifications were required.
5. LCS/BS 6D14096-BS1	Lead was recovered within the laboratory-established control limit of 80-120%.	No qualifications were required.
6. Duplicates None	None	None
7. MS/MSDs None	None	None
10. Other	During a cursory review of the raw data, the reviewer noted that the reported lead result for MJ730 did not match the result in the raw data.	The reviewer hand-crrected the MJ730 lead result from 10 mg/kg to 11 mg/kg.

	Findings	Qualifications
11. Field QC Samples Field blanks: None Equipment rinsates: MJ615 (IPB1462) Field duplicates: None	Lead was detected in the equipment rinsate but not at a sufficient concentration to qualify the site samples.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only, 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 initial and continuing calibration, continuing calibration blanks, interference check samples (ICSA/ICSAB), and serial dilutions.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPD1011

Sampled: 04/10/06
Received: 04/10/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1011-07 (MJ729 - Soil)									
Reporting Units: mg/kg dry									
Lead	EPA 6020	6D14096	0.023	0.59	**14**	1	04/14/06	04/17/06	
Sample ID: IPD1011-08 (MJ730 - Soil)									
Reporting Units: mg/kg dry									
Lead	EPA 6020	6D14096	0.023	0.57	**10**	1	04/14/06	04/19/06	$
Sample ID: IPD1011-12 (MJ734 - Soil)									
Reporting Units: mg/kg dry									
Lead	EPA 6020	6D14096	0.029	0.71	**15**	1	04/14/06	04/17/06	

Rep Qual | Qual Code

PM 5/5/06

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

LEVEL V

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

12269 East Vassar Drive, Aurora, CO 80014
720.535.5502, Fax 720.535.7555

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, Group 6 Data Gap
Project Manager:	D. Hambrick
Analysis/Method:	Metals by EPA 6010B, 6020, 7470A, and 7471A
QC Level:	V[1]
SDG:	IPB1429
Matrix:	Soil/Water
No. of Samples:	13
No. of Reanalyses:	0
Date Reviewed:	March 13, 2006
Reviewer:	P. Meeks
Reference:	USEPA *Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	MJ611, MJ612, MJ614, MJ615, MJ616, MJ619, MJ620, MJ621, MJ630, MJ631, MJ633, MJ634, MJ635

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the temperature limits of 4°±2°C, at 5 °C. The COCs were signed and dated by field and laboratory personnel and accounted for the samples and analyses presented in this SDG. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The 6-month ICP and ICP-MS metals, and the 28-day mercury analytical holding times were met.	No qualifications were required.

	Findings	Qualifications
3. Method Blanks 6B17075-BLK1 6B20085-BLK1 6B20087-BLK1 6B21105-BLK1 6B21108-BLK1 6B22092-BLK1	Boron was detected in 6B21108-BLK1 at 2.37 mg/kg and mercury was detected in 6B22092-BLK1 at 0.00405 mg/kg. Antimony, molybdenum, and silver were detected in a bracketing CCB at 0.520, 0.231, and 0.036 µg/L, respectively.	Boron and antimony detected in all site soil samples, and molybdenum in all soil site samples except MJ630 were qualified as estimated nondetects, "UJ." Mercury detected in MJ611, MJ614, and MJ620 and silver detected in MJ611, MJ614, MJ630, MJ631, MJ633, and MJ634 were qualified as estimated nondetects, "UJ."
5. LCS/BS 6B17075-BS1 6B20085-BS1 6B20087-BS1 6B21105-BS1 6B21108-BS1 6B22092-BS1	The recoveries were within the laboratory-established control limits.	No qualifications were required.
6. Duplicates None	None	None
7. MS/MSDs MJ611	Antimony was recovered below 30% and selenium and molybdenum were recovered below the control limit in both the MS and the MSD. Barium, cadmium, chromium, copper, nickel, vanadium, and zinc were recovered below the control limit in the MSD only. The remaining recoveries were within the control limits of 75-125% for the ICP and ICP-MS metals and 65-135% for mercury.	Nondetected antimony (see Section 3) in all soil site samples was rejected, "R." Barium, cadmium, chromium, copper, molybdenum, nickel, selenium, vanadium, and zinc were qualified as estimated, "UJ," for nondetects and, "J," for detects.
10. Other	None	None
11. Field QC Samples Field blanks: None Equipment rinsates: MJ615 Field duplicates: None	Cadmium, copper, nickel, lead, and zinc were detected in MJ615 at 0.084, 19, 58, 3.8, 140 µg/L, respectively.	Copper, nickel, and zinc in all soil site samples were qualified as estimated detects, "J." Cadmium in samples MJ611, MJ614, MJ630, and MJ631 and lead in samples MJ611, MJ612, MJ630 were qualified as estimated detects, "J."
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only, 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 initial and continuing calibration, continuing calibration blanks, interference check samples (ICSA/ICSAB), and serial dilutions.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2320 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IPB1429-04 (MJ611 - Soil)					**Sampled: 02/13/06**						
Reporting Units: mg/kg dry											
Aluminum	EPA 6010B	6B21108	5.2	10	**12000**	1	02/21/06	02/23/06	M-HA		
Antimony	EPA 6020	6B21105	0.031	1.0	**0.42**	1	02/21/06	02/21/06	R J, M2		B, Q
Arsenic	EPA 6020	6B21105	0.26	0.52	**2.0**	1	02/21/06	02/21/06	M2		
Barium	EPA 6020	6B21105	0.083	0.52	**82**	1	02/21/06	02/21/06	J M2		Q
Beryllium	EPA 6020	6B21105	0.042	0.31	**0.49**	1	02/21/06	02/21/06	M2		
Boron	EPA 6010B	6B21108	1.0	5.2	**6.8**	1	02/21/06	02/23/06	UJ B		B
Cadmium	EPA 6020	6B21105	0.021	0.52	**0.14**	1	02/21/06	02/21/06	J M2, J		Q, F
Chromium	EPA 6020	6B21105	0.31	1.0	**15**	1	02/21/06	02/21/06	↓ M2		↓
Cobalt	EPA 6020	6B21105	0.021	0.52	**5.2**	1	02/21/06	02/21/06	M2		
Copper	EPA 6020	6B21105	0.21	1.0	**8.8**	1	02/21/06	02/21/06	J M2		Q, F
Lead	EPA 6020	6B21105	0.021	0.52	**4.9**	1	02/21/06	02/21/06	J		F
Mercury	EPA 7471A	6B22092	0.0031	0.021	**0.0087**	1	02/22/06	02/22/06	UJ B, J		B
Molybdenum	EPA 6020	6B21105	0.10	1.0	**0.59**	1	02/21/06	02/21/06	UJ M2, J		B, Q
Nickel	EPA 6020	6B21105	0.21	1.0	**11**	1	02/21/06	02/21/06	J M2		Q, F
Selenium	EPA 6020	6B21105	0.21	1.0	ND	1	02/21/06	02/21/06	UJ M2		Q
Silver	EPA 6020	6B21105	0.021	0.52	**0.078**	1	02/21/06	02/21/06	UJ J		B
Thallium	EPA 6020	6B21105	0.10	0.52	**0.33**	1	02/21/06	02/21/06	J		
Vanadium	EPA 6020	6B21105	0.42	1.0	**26**	1	02/21/06	02/21/06	J		Q
Zinc	EPA 6020	6B21105	0.52	10	**43**	1	02/21/06	02/22/06	↓ M2		↓, F
Sample ID: IPB1429-05 (MJ612 - Soil)					**Sampled: 02/13/06**						
Reporting Units: mg/kg dry											
Aluminum	EPA 6010B	6B21108	6.2	12	**10000**	1	02/21/06	02/23/06			
Antimony	EPA 6020	6B21105	0.037	1.2	**0.60**	1	02/21/06	02/22/06	R J		B, Q
Arsenic	EPA 6020	6B21105	0.31	0.62	**1.9**	1	02/21/06	02/22/06			
Barium	EPA 6020	6B21105	0.10	0.62	**79**	1	02/21/06	02/22/06	J		Q
Beryllium	EPA 6020	6B21105	0.050	0.37	**0.36**	1	02/21/06	02/22/06	J		
Boron	EPA 6010B	6B21108	1.2	6.2	**6.6**	1	02/21/06	02/23/06	UJ B		B
Cadmium	EPA 6020	6B21105	0.025	0.62	**0.33**	1	02/21/06	02/22/06	J J		Q
Chromium	EPA 6020	6B21105	0.37	1.2	**14**	1	02/21/06	02/22/06	↓		↓
Cobalt	EPA 6020	6B21105	0.025	0.62	**4.3**	1	02/21/06	02/22/06			
Copper	EPA 6020	6B21105	0.25	1.2	**8.5**	1	02/21/06	02/22/06	J		Q, F
Lead	EPA 6020	6B21105	0.025	0.62	**11**	1	02/21/06	02/22/06	J		F
Mercury	EPA 7471A	6B22092	0.0037	0.025	**0.12**	1	02/22/06	02/22/06			
Molybdenum	EPA 6020	6B21105	0.12	1.2	**0.66**	1	02/21/06	02/22/06	UJ J		B, Q
Nickel	EPA 6020	6B21105	0.25	1.2	**9.2**	1	02/21/06	02/22/06	J		Q, F
Selenium	EPA 6020	6B21105	0.25	1.2	ND	1	02/21/06	02/22/06	UJ		Q
Silver	EPA 6020	6B21105	0.025	0.62	**0.57**	1	02/21/06	02/22/06	J		
Thallium	EPA 6020	6B21105	0.12	0.62	**0.34**	1	02/21/06	02/22/06	J		
Vanadium	EPA 6020	6B21105	0.50	1.2	**23**	1	02/21/06	02/22/06	J		Q
Zinc	EPA 6020	6B21105	0.62	12	**48**	1	02/21/06	02/22/06	↓		↓, F

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical

LEVEL V

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IPB1429-07 (MJ615 - Water) - cont.					**Sampled: 02/13/06**						
Reporting Units: ug/l											
Antimony	EPA 6020	6B20087	0.050	2.0	ND	1	02/20/06	02/23/06	U	U	
Arsenic	EPA 6020	6B20087	0.50	1.0	ND	1	02/20/06	02/20/06	U	U	
Barium	EPA 6020	6B20087	0.15	1.0	**3.3**	1	02/20/06	02/20/06			
Beryllium	EPA 6020	6B20087	0.075	0.50	ND	1	02/20/06	02/20/06	U		
Cadmium	EPA 6020	6B20087	0.025	1.0	**0.084**	1	02/20/06	02/20/06	J		
Chromium	EPA 6020	6B20087	0.56	2.0	ND	1	02/20/06	02/20/06	U	U	
Cobalt	EPA 6020	6B20087	0.035	1.0	ND	1	02/20/06	02/20/06	U	U	
Copper	EPA 6020	6B20087	0.25	2.0	**19**	1	02/20/06	02/20/06			
Lead	EPA 6020	6B20087	0.040	1.0	**3.8**	1	02/20/06	02/20/06			
Molybdenum	EPA 6020	6B20087	0.15	2.0	ND	1	02/20/06	02/20/06	U		
Nickel	EPA 6020	6B20087	0.35	2.0	**58**	1	02/20/06	02/20/06			
Selenium	EPA 6020	6B20087	0.30	2.0	ND	1	02/20/06	02/20/06	U		
Silver	EPA 6020	6B20087	0.025	1.0	ND	1	02/20/06	02/20/06			
Thallium	EPA 6020	6B20087	0.15	1.0	ND	1	02/20/06	02/20/06			
Vanadium	EPA 6020	6B20087	0.70	2.0	ND	1	02/20/06	02/20/06			
Zinc	EPA 6020	6B20087	1.0	20	**140**	1	02/20/06	02/20/06			

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

LEVEL II

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IPB1429-06 (MJ614 - Soil)					**Sampled: 02/13/06**						
Reporting Units: mg/kg dry											
Aluminum	EPA 6010B	6B21108	5.1	10	**12000**	1	02/21/06	02/23/06			
Antimony	EPA 6020	6B21105	0.031	1.0	**0.20**	1	02/21/06	02/22/06	R J	R J	B,Q
Arsenic	EPA 6020	6B21105	0.26	0.51	**2.4**	1	02/21/06	02/22/06			
Barium	EPA 6020	6B21105	0.082	0.51	**77**	1	02/21/06	02/22/06	J	J	Q
Beryllium	EPA 6020	6B21105	0.041	0.31	**0.46**	1	02/21/06	02/22/06			
Boron	EPA 6010B	6B21108	1.0	5.1	**6.3**	1	02/21/06	02/23/06	UJ B	UJ B	B
Cadmium	EPA 6020	6B21105	0.021	0.51	**0.14**	1	02/21/06	02/22/06	J J	J J	Q,F
Chromium	EPA 6020	6B21105	0.31	1.0	**16**	1	02/21/06	02/22/06	↓	↓	↓
Cobalt	EPA 6020	6B21105	0.021	0.51	**4.8**	1	02/21/06	02/22/06			
Copper	EPA 6020	6B21105	0.21	1.0	**8.5**	1	02/21/06	02/22/06	J	J	Q,F
Lead	EPA 6020	6B21105	0.021	0.51	**5.4**	1	02/21/06	02/22/06	J	J	F
Mercury	EPA 7471A	6B22092	0.0031	0.021	**0.011**	1	02/22/06	02/22/06	UJ B, J	UJ B, J	B
Molybdenum	EPA 6020	6B21105	0.10	1.0	**0.50**	1	02/21/06	02/22/06	UJ J	UJ J	B,Q
Nickel	EPA 6020	6B21105	0.21	1.0	**9.5**	1	02/21/06	02/22/06	J	J	Q,F
Selenium	EPA 6020	6B21105	0.21	1.0	ND	1	02/21/06	02/22/06	UJ	UJ	Q
Silver	EPA 6020	6B21105	0.021	0.51	**0.052**	1	02/21/06	02/22/06	UJ J	UJ J	B
Thallium	EPA 6020	6B21105	0.10	0.51	**0.26**	1	02/21/06	02/22/06	J	J	
Vanadium	EPA 6020	6B21105	0.41	1.0	**25**	1	02/21/06	02/22/06	J	J	Q
Zinc	EPA 6020	6B21105	0.51	10	**38**	1	02/21/06	02/22/06	↓	↓	↓,F
Sample ID: IPB1429-08 (MJ616 - Soil)					**Sampled: 02/14/06**						
Reporting Units: mg/kg dry											
Aluminum	EPA 6010B	6B21108	5.5	11	**14000**	1	02/21/06	02/23/06			
Antimony	EPA 6020	6B21105	0.033	1.1	**0.20**	1	02/21/06	02/22/06	R J	R J	B,Q
Arsenic	EPA 6020	6B21105	0.28	0.55	**2.5**	1	02/21/06	02/22/06			
Barium	EPA 6020	6B21105	0.089	0.55	**95**	1	02/21/06	02/22/06	J	J	Q
Beryllium	EPA 6020	6B21105	0.044	0.33	**0.43**	1	02/21/06	02/22/06			
Boron	EPA 6010B	6B21108	1.1	5.5	**7.6**	1	02/21/06	02/23/06	UJ B	UJ B	B
Cadmium	EPA 6020	6B21105	0.022	0.55	**0.32**	1	02/21/06	02/22/06	J J	J J	Q
Chromium	EPA 6020	6B21105	0.33	1.1	**16**	1	02/21/06	02/22/06	↓	↓	↓
Cobalt	EPA 6020	6B21105	0.022	0.55	**5.2**	1	02/21/06	02/22/06			
Copper	EPA 6020	6B21105	0.22	1.1	**10**	1	02/21/06	02/22/06	J	J	Q,F
Lead	EPA 6020	6B21105	0.022	0.55	**20**	1	02/21/06	02/22/06			
Mercury	EPA 7471A	6B22092	0.0033	0.022	**0.033**	1	02/22/06	02/22/06	B	B	
Molybdenum	EPA 6020	6B21105	0.11	1.1	**0.57**	1	02/21/06	02/22/06	UJ J	UJ J	B,Q
Nickel	EPA 6020	6B21105	0.22	1.1	**11**	1	02/21/06	02/22/06	J	J	Q,F
Selenium	EPA 6020	6B21105	0.22	1.1	ND	1	02/21/06	02/22/06	UJ	UJ	Q
Silver	EPA 6020	6B21105	0.022	0.55	**2.4**	1	02/21/06	02/22/06			
Thallium	EPA 6020	6B21105	0.11	0.55	**0.26**	1	02/21/06	02/22/06	J	J	
Vanadium	EPA 6020	6B21105	0.44	1.1	**27**	1	02/21/06	02/22/06	J	J	Q
Zinc	EPA 6020	6B21105	0.55	11	**110**	1	02/21/06	02/22/06	↓	↓	↓,F

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

LEVEL IV

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IPB1429-11 (MJ619 - Soil)					**Sampled: 02/14/06**						
Reporting Units: mg/kg dry											
Aluminum	EPA 6010B	6B21108	5.7	11	8700	1	02/21/06	02/23/06			
Antimony	EPA 6020	6B21105	0.034	1.1	0.14	1	02/21/06	02/22/06	R J	R J	B,Q
Arsenic	EPA 6020	6B21105	0.28	0.57	1.6	1	02/21/06	02/22/06			
Barium	EPA 6020	6B21105	0.091	0.57	52	1	02/21/06	02/22/06	J	J	Q
Beryllium	EPA 6020	6B21105	0.045	0.34	0.33	1	02/21/06	02/22/06	J	J	
Boron	EPA 6010B	6B21108	1.1	5.7	5.8	1	02/21/06	02/23/06	UJ B	UJ B	B
Cadmium	EPA 6020	6B21105	0.023	0.57	0.53	1	02/21/06	02/22/06	J J	J J	Q
Chromium	EPA 6020	6B21105	0.34	1.1	13	1	02/21/06	02/22/06	↓	↓	↓
Cobalt	EPA 6020	6B21105	0.023	0.57	3.4	1	02/21/06	02/22/06			
Copper	EPA 6020	6B21105	0.23	1.1	12	1	02/21/06	02/22/06	J	J	Q,F
Lead	EPA 6020	6B21105	0.023	0.57	16	1	02/21/06	02/22/06			
Mercury	EPA 7471A	6B22092	0.0034	0.023	0.055	1	02/22/06	02/22/06			
Molybdenum	EPA 6020	6B21105	0.11	1.1	0.33	1	02/21/06	02/22/06	UJ J	UJ J	B,Q
Nickel	EPA 6020	6B21105	0.23	1.1	8.9	1	02/21/06	02/22/06	J	J	Q,F
Selenium	EPA 6020	6B21105	0.23	1.1	ND	1	02/21/06	02/22/06	UJ	UJ	Q
Silver	EPA 6020	6B21105	0.023	0.57	0.47	1	02/21/06	02/22/06	J	J	
Thallium	EPA 6020	6B21105	0.11	0.57	0.17	1	02/21/06	02/22/06	J	J	
Vanadium	EPA 6020	6B21105	0.45	1.1	19	1	02/21/06	02/22/06	J	J	Q
Zinc	EPA 6020	6B21105	0.57	11	83	1	02/21/06	02/22/06	↓	↓	↓,F
Sample ID: IPB1429-12 (MJ620 - Soil)					**Sampled: 02/14/06**						
Reporting Units: mg/kg dry											
Aluminum	EPA 6010B	6B21108	5.4	11	6900	1	02/21/06	02/23/06			
Antimony	EPA 6020	6B21105	0.032	1.1	0.13	1	02/21/06	02/22/06	R J	R J	B,Q
Arsenic	EPA 6020	6B21105	0.27	0.54	2.4	1	02/21/06	02/22/06			
Barium	EPA 6020	6B21105	0.086	0.54	39	1	02/21/06	02/22/06	J	J	Q
Beryllium	EPA 6020	6B21105	0.043	0.32	0.23	1	02/21/06	02/22/06	J	J	
Boron	EPA 6010B	6B21108	1.1	5.4	5.6	1	02/21/06	02/23/06	UJ B	UJ B	B
Cadmium	EPA 6020	6B21105	0.021	0.54	0.28	1	02/21/06	02/22/06	J J	J J	Q
Chromium	EPA 6020	6B21105	0.32	1.1	14	1	02/21/06	02/22/06	↓	↓	↓
Cobalt	EPA 6020	6B21105	0.021	0.54	3.5	1	02/21/06	02/22/06			
Copper	EPA 6020	6B21105	0.21	1.1	10	1	02/21/06	02/22/06	J	J	Q,F
Lead	EPA 6020	6B21105	0.021	0.54	41	1	02/21/06	02/22/06			
Mercury	EPA 7471A	6B22092	0.0032	0.021	0.015	1	02/22/06	02/22/06	UJ B, J	UJ B, J	B
Molybdenum	EPA 6020	6B21105	0.11	1.1	0.35	1	02/21/06	02/22/06	UJ J	UJ J	B,Q
Nickel	EPA 6020	6B21105	0.21	1.1	12	1	02/21/06	02/22/06	J	J	Q,F
Selenium	EPA 6020	6B21105	0.21	1.1	ND	1	02/21/06	02/22/06	UJ	UJ	Q
Silver	EPA 6020	6B21105	0.021	0.54	0.26	1	02/21/06	02/22/06	J	J	
Thallium	EPA 6020	6B21105	0.11	0.54	0.13	1	02/21/06	02/22/06	J	J	
Vanadium	EPA 6020	6B21105	0.43	1.1	17	1	02/21/06	02/22/06	J	J	Q
Zinc	EPA 6020	6B21105	0.54	11	54	1	02/21/06	02/22/06	↓	↓	↓,F

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

LEVEL V

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-1207
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IPB1429-13 (MJ621 - Soil)					**Sampled: 02/14/06**						
Reporting Units: mg/kg dry											
Aluminum	EPA 6010B	6B21108	6.0	12	**11000**	1	02/21/06	02/23/06			
Antimony	EPA 6020	6B21105	0.036	1.2	**0.21**	1	02/21/06	02/22/06	R J	R J	B,Q
Arsenic	EPA 6020	6B21105	0.30	0.60	**2.2**	1	02/21/06	02/22/06			
Barium	EPA 6020	6B21105	0.096	0.60	**67**	1	02/21/06	02/22/06	J	J	Q
Beryllium	EPA 6020	6B21105	0.048	0.36	**0.39**	1	02/21/06	02/22/06			
Boron	EPA 6010B	6B21108	1.2	6.0	**6.3**	1	02/21/06	02/23/06	UJ B	UJ B	B
Cadmium	EPA 6020	6B21105	0.024	0.60	**0.34**	1	02/21/06	02/22/06	J J	J J	Q
Chromium	EPA 6020	6B21105	0.36	1.2	**15**	1	02/21/06	02/22/06	↓	↓	↓
Cobalt	EPA 6020	6B21105	0.024	0.60	**4.2**	1	02/21/06	02/22/06			
Copper	EPA 6020	6B21105	0.24	1.2	**10**	1	02/21/06	02/22/06	J	J	Q,F
Lead	EPA 6020	6B21105	0.024	0.60	**19**	1	02/21/06	02/22/06			
Mercury	EPA 7471A	6B22092	0.0036	0.024	**0.037**	1	02/22/06	02/22/06	B	B	
Molybdenum	EPA 6020	6B21105	0.12	1.2	**0.41**	1	02/21/06	02/22/06	UJ J	UJ J	B,Q
Nickel	EPA 6020	6B21105	0.24	1.2	**10**	1	02/21/06	02/22/06	J	J	Q,F
Selenium	EPA 6020	6B21105	0.24	1.2	ND	1	02/21/06	02/22/06	UJ	UJ	Q
Silver	EPA 6020	6B21105	0.024	0.60	**0.45**	1	02/21/06	02/22/06	J	J	
Thallium	EPA 6020	6B21105	0.12	0.60	**0.21**	1	02/21/06	02/22/06	J	J	
Vanadium	EPA 6020	6B21105	0.48	1.2	**24**	1	02/21/06	02/22/06	J	J	Q
Zinc	EPA 6020	6B21105	0.60	12	**67**	1	02/21/06	02/22/06	↓	↓	↓,F
Sample ID: IPB1429-18 (MJ630 - Soil)					**Sampled: 02/14/06**						
Reporting Units: mg/kg dry											
Aluminum	EPA 6010B	6B21108	5.4	11	**8300**	1	02/21/06	02/23/06			
Antimony	EPA 6020	6B21105	0.032	1.1	**0.077**	1	02/21/06	02/22/06	R J	R J	B,Q
Arsenic	EPA 6020	6B21105	0.27	0.54	**1.2**	1	02/21/06	02/22/06			
Barium	EPA 6020	6B21105	0.086	0.54	**56**	1	02/21/06	02/22/06	J	J	Q
Beryllium	EPA 6020	6B21105	0.043	0.32	**0.26**	1	02/21/06	02/22/06	J	J	
Boron	EPA 6010B	6B21108	1.1	5.4	**4.4**	1	02/21/06	02/23/06	UJ B, J	UJ B, J	B
Cadmium	EPA 6020	6B21105	0.021	0.54	**0.22**	1	02/21/06	02/22/06	J J	J J	Q,F
Chromium	EPA 6020	6B21105	0.32	1.1	**8.0**	1	02/21/06	02/22/06	↓	↓	↓
Cobalt	EPA 6020	6B21105	0.021	0.54	**2.8**	1	02/21/06	02/22/06			
Copper	EPA 6020	6B21105	0.21	1.1	**5.3**	1	02/21/06	02/22/06	J	J	Q,F
Lead	EPA 6020	6B21105	0.021	0.54	**5.5**	1	02/21/06	02/22/06	J	J	F
Mercury	EPA 7471A	6B22092	0.0032	0.021	**0.025**	1	02/22/06	02/22/06	B	B	
Molybdenum	EPA 6020	6B21105	0.11	1.1	**0.65**	1	02/21/06	02/22/06	J J	J J	Q
Nickel	EPA 6020	6B21105	0.21	1.1	**4.5**	1	02/21/06	02/22/06	J	J	Q,F
Selenium	EPA 6020	6B21105	0.21	1.1	ND	1	02/21/06	02/22/06	UJ	UJ	Q
Silver	EPA 6020	6B21105	0.021	0.54	**0.034**	1	02/21/06	02/22/06	UJ J	UJ J	B
Thallium	EPA 6020	6B21105	0.11	0.54	0.19	1	02/21/06	02/22/06	J	J	
Vanadium	EPA 6020	6B21105	0.43	1.1	**15**	1	02/21/06	02/22/06	J	J	Q
Zinc	EPA 6020	6B21105	0.54	11	**48**	1	02/21/06	02/22/06	↓	↓	↓,F

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical

LEVEL IV

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-1297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: SSFL Group 6
Data Gap
Report Number: IPB1429

Sampled: 02/13/06-02/14/06
Received: 02/14/06

METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IPB1429-19 (MJ631 - Soil)					**Sampled: 02/14/06**						
Reporting Units: mg/kg dry											
Aluminum	EPA 6010B	6B21108	5.3	11	**9100**	1	02/21/06	02/23/06			
Antimony	EPA 6020	6B21105	0.032	1.1	**0.074**	1	02/21/06	02/22/06	R	J	B,Q
Arsenic	EPA 6020	6B21105	0.27	0.53	**1.2**	1	02/21/06	02/22/06			
Barium	EPA 6020	6B21105	0.085	0.53	**56**	1	02/21/06	02/22/06	J		Q
Beryllium	EPA 6020	6B21105	0.043	0.32	**0.29**	1	02/21/06	02/22/06		J	
Boron	EPA 6010B	6B21108	1.1	5.3	**4.6**	1	02/21/06	02/23/06	UJ	B, J	B
Cadmium	EPA 6020	6B21105	0.021	0.53	**0.17**	1	02/21/06	02/22/06	J	J	Q,F
Chromium	EPA 6020	6B21105	0.32	1.1	**9.0**	1	02/21/06	02/22/06	↓		↓
Cobalt	EPA 6020	6B21105	0.021	0.53	**3.2**	1	02/21/06	02/22/06			
Copper	EPA 6020	6B21105	0.21	1.1	**5.8**	1	02/21/06	02/22/06	J		Q,F
Lead	EPA 6020	6B21105	0.021	0.53	**11**	1	02/21/06	02/22/06			
Mercury	EPA 7471A	6B22092	0.0032	0.021	**0.022**	1	02/22/06	02/22/06		B	
Molybdenum	EPA 6020	6B21105	0.11	1.1	**0.33**	1	02/21/06	02/22/06	UJ	J	B,Q
Nickel	EPA 6020	6B21105	0.21	1.1	**5.9**	1	02/21/06	02/22/06	J		Q,F
Selenium	EPA 6020	6B21105	0.21	1.1	ND	1	02/21/06	02/22/06	UJ		Q
Silver	EPA 6020	6B21105	0.021	0.53	**0.037**	1	02/21/06	02/22/06	UJ	J	B
Thallium	EPA 6020	6B21105	0.11	0.53	**0.19**	1	02/21/06	02/22/06		J	
Vanadium	EPA 6020	6B21105	0.43	1.1	**16**	1	02/21/06	02/22/06	J		Q
Zinc	EPA 6020	6B21105	0.53	11	**60**	1	02/21/06	02/22/06	↓		↓,F
Sample ID: IPB1429-21 (MJ633 - Soil)					**Sampled: 02/14/06**						
Reporting Units: mg/kg dry											
Silver	EPA 6020	6B21105	0.021	0.52	**0.053**	1	02/21/06	02/22/06	UJ	J	B
Sample ID: IPB1429-22 (MJ634 - Soil)					**Sampled: 02/14/06**						
Reporting Units: mg/kg dry											
Silver	EPA 6020	6B21105	0.022	0.56	**0.034**	1	02/21/06	02/22/06	UJ	J	B
Sample ID: IPB1429-23 (MJ635 - Soil)					**Sampled: 02/14/06**						
Reporting Units: mg/kg dry											
Selenium	EPA 6020	6B21105	0.23	1.1	ND	1	02/21/06	02/22/06	UJ		Q
Silver	EPA 6020	6B21105	0.023	0.57	**0.14**	1	02/21/06	02/22/06		J	
Thallium	EPA 6020	6B21105	0.11	0.57	**0.16**	1	02/21/06	02/22/06		J	
Sample ID: IPB1429-07 (MJ615 - Water)					**Sampled: 02/13/06**						
Reporting Units: mg/l											
Aluminum	EPA 6010B	6B20085	0.040	0.050	ND	1	02/20/06	02/25/06	U		
Boron	EPA 6010B	6B20085	0.0080	0.050	ND	1	02/20/06	02/25/06	↓		
Mercury	EPA 7470A	6B17075	0.000050	0.00020	ND	1	02/17/06	02/17/06			

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

LEVEL IV

12269 East Vassar Drive, Aurora, CO 80014
303.881.8816, Fax 720.535.7555

DATA ASSESSMENT FORM

Project Title:	Boeing SSFL RFI, Group 6 Data Gap
Project Manager:	D. Hambrick
Analysis/Method:	Dioxin/Furans by Method 1613
QC Level:	V[1]
SDG:	IPB1429
Matrix:	Soil/Water
No. of Samples:	8
No. of Reanalyses:	0
Date Reviewed:	March 12, 2006
Reviewer:	K. Shadowlight
Reference:	*National Functional Guidelines for Chlorinated Dioxin/Furan Data Review* (8/02), USEPA *Method 1613*
Samples Reviewed:	MJ610, MJ615, MJ617, MJ618, MJ619, MJ620, MJ621 and MJ636

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received at Del Mar within the temperature limits of 4° ±2°C. The samples were shipped to Alta for dioxin/furan analysis and were received below the temperature limits at 0°C. As the samples were not noted to be damaged or frozen, no qualifications were required. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The original COC and transfer COC were signed and dated by field and laboratory personnel. The original COC requested the analysis of dioxins by EPA Method 8290. The transfer COC requested analysis by Method 1613. The laboratory analyzed the samples by Method 1613 as indicated on the transfer COC. The EPA IDs were added to the sample result summaries.	No qualifications were required.

	Findings	Qualifications
Sample Management (cont.)	The samples were extracted and analyzed within one year of sample collection.	No qualifications were required.
4. Method Blanks 0-7786-MB001 (soil) 0-7776-MB001 (water) 0-7987-MB001 (soil)	Target compound 1,2,3,4,6,7,8-HpCDF was reported at a concentration below the laboratory lower calibration level in the soil method blank, 0-7786-MB001. Target compounds OCDD, 1,2,3,4,6,7,8-HpCDF and OCDF were reported at concentrations below the laboratory lower calibration level in soil method blank, 0-7987-MB001. These target compounds were also reported in the samples of this SDG; however, the detects in the samples exceeded five times the concentration reported in the method blank. Target compounds 1,2,3,6,7,8-HxCDF and total HxCDF were reported as EMPCs in the soil method blank 0-7786-MB001 and 1,2,3,4,7,8-HxCDF was reported as an EMPC in soil method blank 0-7987-MB001. Target compound PeCDD was reported as an EMPC in the water method blank. There were no other detects reported in the method blank.	No qualifications were required.
5. OPR 0-7786-OPR001 0-7776-OPR001 0-7987-OPR001	All recoveries were within the acceptance criteria listed in Table 6 of Method 1613.	No qualifications were required.
6. MS/MSDs	MS/MSD analyses were not performed on the samples in this SDG.	No qualifications were required.
7. Field QC Samples FB: None ER: MJ615	Target compounds 1,2,3,4,6,7,8-HpCDD and OCDD were reported at concentrations below the laboratory lower calibration level in the equipment rinsate. These target compounds were also reported in the samples of this SDG; however, the detects in the samples exceeded five times the concentrations reported in the equipment rinsate.	No qualifications were required.

	Findings	Qualifications
10. Other	EMPCs were identified in this SDG.	Any EMPC was qualified as an estimated nondetect, "UJ."
	Target compound 2,3,7,8-TCDF was reported in samples MJ610, MJ621 and MJ636; however, a confirmation analysis was not performed by the laboratory	The detects for 2,3,7,8-TCDF were qualified as estimated, "J," in samples MJ610, MJ621and MJ636.
	Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory	
	Diphenyl ether interference was present in several samples of this SDG and was denoted with a "D" flag by the laboratory	Any detects with diethyl ether interference were qualified as estimated, "J," in the samples of this SDG
	Sample results were reported in units of pg/g on a dry-weight basis.	
Comments	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 for all samples in this SDG	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 performance, initial and continuing calibrations.

ALTA

Sample ID:	IPB1429-03 MJ610						EPA Method 1613
Client Data		**Sample Data**		**Laboratory Data**			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27302-001	Date Received:	17-Feb-06
Project:	IPB1429	Sample Size:	10.7 g	QC Batch No.:	7786	Date Extracted:	26-Feb-06
Date Collected:	13-Feb-06	%Solids:	92.8	Date Analyzed DB-5:	27-Feb-06	Date Analyzed DB-225:	NA
Time Collected:	1345						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.129		
1,2,3,7,8-PeCDD	ND	0.128		
1,2,3,4,7,8-HxCDD	ND	0.340		
1,2,3,6,7,8-HxCDD	0.333			J
1,2,3,7,8,9-HxCDD	ND	0.197		
1,2,3,4,6,7,8-HpCDD	12.7			
OCDD	151			
2,3,7,8-TCDF	0.186			J
1,2,3,7,8-PeCDF	0.167			J
2,3,4,7,8-PeCDF	0.187			J
1,2,3,4,7,8-HxCDF	0.404			J
1,2,3,6,7,8-HxCDF	0.178			J
2,3,4,6,7,8-HxCDF	0.235			J
1,2,3,7,8,9-HxCDF	ND	0.269		
1,2,3,4,6,7,8-HpCDF	1.87			J,B
1,2,3,4,7,8,9-HpCDF	ND		0.189	
OCDF	3.09			J

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	87.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	89.8	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	77.2	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	91.4	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	94.3	23 - 140	
	13C-OCDD	68.6	17 - 157	
	13C-2,3,7,8-TCDF	93.1	24 - 169	
	13C-1,2,3,7,8-PeCDF	94.3	24 - 185	
	13C-2,3,4,7,8-PeCDF	92.8	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	91.1	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	93.5	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	86.4	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	84.8	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	86.5	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	102	26 - 138	
	13C-OCDF	82.2	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	81.8	35 - 197	

Totals			
Total TCDD	0.734	0.910	
Total PeCDD	0.494	0.786	
Total HxCDD	3.68		
Total HpCDD	48.2		
Total TCDF	0.928		
Total PeCDF	1.32		
Total HxCDF	3.96	4.21	
Total HpCDF	6.83	7.02	B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 0.535

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.
e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 02-Mar-2006 10:36

Sample ID:	IPB1429-07				EPA Method 1613
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27302-002
Project:	IPB1429	Sample Size:	1.00 L	QC Batch No.:	7776
Date Collected:	13-Feb-06			Date Analyzed DB-5:	24-Feb-06
Time Collected:	1620				
				Date Received	17-Feb-06
				Date Extracted:	22-Feb-06
				Date Analyzed DB-225:	NA

Analyte	Conc. (pg/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.69		
1,2,3,7,8-PeCDD	ND	1.89		
1,2,3,4,7,8-HxCDD	ND	2.84		
1,2,3,6,7,8-HxCDD	ND	2.95		
1,2,3,7,8,9-HxCDD	ND	2.80		
1,2,3,4,6,7,8-HpCDD	2.07			J
OCDD	8.27			J
2,3,7,8-TCDF	ND	1.75		
1,2,3,7,8-PeCDF	ND	2.79		
2,3,4,7,8-PeCDF	ND	2.72		
1,2,3,4,7,8-HxCDF	ND	0.449		
1,2,3,6,7,8-HxCDF	ND	0.457		
2,3,4,6,7,8-HxCDF	ND	0.551		
1,2,3,7,8,9-HxCDF	ND	0.878		
1,2,3,4,6,7,8-HpCDF	ND	1.06		
1,2,3,4,7,8,9-HpCDF	ND	1.13		
OCDF	ND	4.25		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	65.9	25 - 164	
	13C-1,2,3,7,8-PeCDD	63.0	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	62.0	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	71.3	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	75.4	23 - 140	
	13C-OCDD	46.5	17 - 157	
	13C-2,3,7,8-TCDF	72.2	24 - 169	
	13C-1,2,3,7,8-PeCDF	71.1	24 - 185	
	13C-2,3,4,7,8-PeCDF	71.9	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	75.8	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	74.8	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	67.5	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	69.3	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	68.6	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	76.9	26 - 138	
	13C-OCDF	55.4	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	91.6	35 - 197	

Totals		
Total TCDD	ND	1.69
Total PeCDD	ND	1.89
Total HxCDD	ND	2.86
Total HpCDD	2.07	
Total TCDF	ND	1.75
Total PeCDF	ND	2.76
Total HxCDF	ND	0.567
Total HpCDF	ND	1.10

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 0.0290

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF).

Analyst DMS

Approved By: William J. Luksemburg 02-Mar-2006 10:36

ALTA

Sample ID: IPB1429-09 MJK17 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27302-003	Date Received:	17-Feb-06
Project:	IPB1429	Sample Size:	10.5 g	QC Batch No.:	7786	Date Extracted:	26-Feb-06
Date Collected:	14-Feb-06	%Solids:	93.9	Date Analyzed DB-5:	27-Feb-06	Date Analyzed DB-225:	NA
Time Collected:	0851						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.111		
1,2,3,7,8-PeCDD	0.477			J
1,2,3,4,7,8-HxCDD	0.841			J
1,2,3,6,7,8-HxCDD	2.11			J
1,2,3,7,8,9-HxCDD	1.94			J
1,2,3,4,6,7,8-HpCDD	75.0			
OCDD	946			
2,3,7,8-TCDF	ND		0.371	
1,2,3,7,8-PeCDF	ND		0.181	
2,3,4,7,8-PeCDF	0.530			J
1,2,3,4,7,8-HxCDF	0.798			J
1,2,3,6,7,8-HxCDF	0.437			J
2,3,4,6,7,8-HxCDF	0.710			J
1,2,3,7,8,9-HxCDF	ND		0.289	
1,2,3,4,6,7,8-HpCDF	12.8			B
1,2,3,4,7,8,9-HpCDF	1.20			J
OCDF	85.7			

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	91.6	25 - 164	
	13C-1,2,3,7,8-PeCDD	94.7	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	83.3	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	95.5	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	105	23 - 140	
	13C-OCDD	88.2	17 - 157	
	13C-2,3,7,8-TCDF	99.4	24 - 169	
	13C-1,2,3,7,8-PeCDF	98.0	24 - 185	
	13C-2,3,4,7,8-PeCDF	96.7	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	97.8	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	98.7	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	92.9	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	90.6	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	93.0	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	111	26 - 138	
	13C-OCDF	99.2	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	83.1	35 - 197	

Totals				
Total TCDD	ND	0.111		
Total PeCDD	1.18		1.94	
Total HxCDD	16.2			
Total HpCDD	149			
Total TCDF	2.00		2.37	
Total PeCDF	4.81		4.99	
Total HxCDF	15.8		16.1	
Total HpCDF	58.2			B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 3.11

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 02-Mar-2006 10:36

ALTA

Sample ID:	IPB1429-10				EPA Method 1613
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27302-004
Project:	IPB1429	Sample Size:	11.0 g	QC Batch No.:	7786
Date Collected:	14-Feb-06	%Solids:	92.3	Date Analyzed DB-5:	27-Feb-06
Time Collected:	0910			Date Received:	17-Feb-06
				Date Extracted:	26-Feb-06
				Dates Analyzed DB-225:	28-Feb-06

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.252		
1,2,3,7,8-PeCDD	0.491			J
1,2,3,4,7,8-HxCDD	0.862			J
1,2,3,6,7,8-HxCDD	3.35			
1,2,3,7,8,9-HxCDD	1.89			J
1,2,3,4,6,7,8-HpCDD	125			
OCDD	1510			
2,3,7,8-TCDF	1.48			
1,2,3,7,8-PeCDF	0.647			J
2,3,4,7,8-PeCDF	1.62			J
1,2,3,4,7,8-HxCDF	2.60			
1,2,3,6,7,8-HxCDF	1.22			J
2,3,4,6,7,8-HxCDF	1.45			J
1,2,3,7,8,9-HxCDF	0.806			J
1,2,3,4,6,7,8-HpCDF	22.3			B
1,2,3,4,7,8,9-HpCDF	1.86			J
OCDF	48.9			

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	94.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	95.8	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	89.6	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	96.6	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	91.7	23 - 140	
	13C-OCDD	74.7	17 - 157	
	13C-2,3,7,8-TCDF	97.2	24 - 169	
	13C-1,2,3,7,8-PeCDF	98.7	24 - 185	
	13C-2,3,4,7,8-PeCDF	95.8	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	103	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	101	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	95.5	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	85.3	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	84.8	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	102	26 - 138	
	13C-OCDF	84.7	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	85.6	35 - 197	

Totals			
Total TCDD	4.04	4.36	
Total PeCDD	3.31	3.98	
Total HxCDD	30.0		
Total HpCDD	373		
Total TCDF	14.0		
Total PeCDF	11.6		
Total HxCDF	38.8		
Total HpCDF	70.6		B

Toxic Equivalent Quotient (TEQ) Data [c]

TEQ (Min): 5.50

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 02-Mar-2006 14:16

ALTA

Sample ID:	IPB1429-11				EPA Method 1613
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Del Mar Analytical, Irvine	Matrix	Soil	Lab Sample: 27302-005	Date Received: 17-Feb-06
Project:	IPB1429	Sample Size:	11.3 g	QC Batch No.: 7786	Date Extracted: 26-Feb-06
Date Collected:	14-Feb-06	%Solids:	89.6	Date Analyzed DB-5: 27-Feb-06	Dates Analyzed DB-225: 28-Feb-06
Time Collected:	0932				

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	2.92			
1,2,3,7,8-PeCDD	9.24			
1,2,3,4,7,8-HxCDD	22.2			
1,2,3,6,7,8-HxCDD	98.8			
1,2,3,7,8,9-HxCDD	38.5			
1,2,3,4,6,7,8-HpCDD	2420			
OCDD	28000			
2,3,7,8-TCDF	2.20			
1,2,3,7,8-PeCDF	1.47			J
2,3,4,7,8-PeCDF	4.35			
1,2,3,4,7,8-HxCDF	13.4			
1,2,3,6,7,8-HxCDF	10.4			
2,3,4,6,7,8-HxCDF	24.3			
1,2,3,7,8,9-HxCDF	2.55			
1,2,3,4,6,7,8-HpCDF	380			B
1,2,3,4,7,8,9-HpCDF	36.1			
OCDF	1030			

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	99.2	25 - 164	
	13C-1,2,3,7,8-PeCDD	99.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	92.1	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	99.2	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	97.4	23 - 140	
	13C-OCDD	86.5	17 - 157	
	13C-2,3,7,8-TCDF	102	24 - 169	
	13C-1,2,3,7,8-PeCDF	103	24 - 185	
	13C-2,3,4,7,8-PeCDF	102	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	105	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	103	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	96.9	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	86.2	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	86.6	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	105	26 - 138	
	13C-OCDF	91.4	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	87.7	35 - 197	

Totals			
Total TCDD	6.39	6.62	
Total PeCDD	51.5		
Total HxCDD	550		
Total HpCDD	4370		
Total TCDF	31.5	32.6	
Total PeCDF	111		
Total HxCDF	682		
Total HpCDF	1650		B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 88.4

a. Sample specific estimated detection limit

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF).

Analyst: DMS

Approved By: William J. Luksemburg 02-Mar-2006 14:16

ALTA

Sample ID:	IPB1429-12				EPA Method 1613
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27302-006
Project:	IPB1429	Sample Size:	10.7 g	QC Batch No.:	7786
Date Collected:	14-Feb-06	%Solids:	92.9	Date Analyzed DB-5:	27-Feb-06
Time Collected:	0938			Date Received:	17-Feb-06
				Date Extracted:	26-Feb-06
				Dates Analyzed DB-225:	28-Feb-06

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	2.81			
1,2,3,7,8-PeCDD	8.36			
1,2,3,4,7,8-HxCDD	21.4			
1,2,3,6,7,8-HxCDD	87.1			
1,2,3,7,8,9-HxCDD	33.4			
1,2,3,4,6,7,8-HpCDD	1880			
OCDD	20200			
2,3,7,8-TCDF	1.05			
1,2,3,7,8-PeCDF	1.29			J
2,3,4,7,8-PeCDF	2.91			
1,2,3,4,7,8-HxCDF	11.6			
1,2,3,6,7,8-HxCDF	9.42			
2,3,4,6,7,8-HxCDF	19.0			
1,2,3,7,8,9-HxCDF	2.19			J
1,2,3,4,6,7,8-HpCDF	297			B
1,2,3,4,7,8,9-HpCDF	26.3			
OCDF	743			

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	84.4	25 - 164	
	13C-1,2,3,7,8-PeCDD	90.4	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	77.9	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	84.4	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	82.6	23 - 140	
	13C-OCDD	66.6	17 - 157	
	13C-2,3,7,8-TCDF	88.0	24 - 169	
	13C-1,2,3,7,8-PeCDF	95.3	24 - 185	
	13C-2,3,4,7,8-PeCDF	94.1	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	86.6	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	85.7	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	84.0	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	81.6	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	82.3	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	82.8	26 - 138	
	13C-OCDF	67.5	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	76.1	35 - 197	

Totals	
Total TCDD	12.5
Total PeCDD	60.4
Total HxCDD	475
Total HpCDD	3510
Total TCDF	22.0
Total PeCDF	95.4
Total HxCDF	577
Total HpCDF	1410 B

Toxic Equivalent Quotient (TEQ) Data [c]

TEQ (Min): 70.0

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF)

Analyst: DMS

Approved By: William J. Luksemburg 02-Mar-2006 10:36

ALTA

Sample ID:	IPB1429-13				EPA Method 1613
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27302-007
Project:	IPB1429	Sample Size:	12.0 g	QC Batch No.:	7786
Date Collected:	14-Feb-06	%Solids:	83.5	Date Analyzed DB-5:	27-Feb-06
Time Collected:	1003			Date Received:	17-Feb-06
				Date Extracted:	26-Feb-06
				Date Analyzed DB-225:	NA

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	0.543			
1,2,3,7,8-PeCDD	2.17			J
1,2,3,4,7,8-HxCDD	5.18			
1,2,3,6,7,8-HxCDD	19.2			
1,2,3,7,8,9-HxCDD	7.62			
1,2,3,4,6,7,8-HpCDD	457			
OCDD	5160			
2,3,7,8-TCDF	0.982			
1,2,3,7,8-PeCDF	0.455			J
2,3,4,7,8-PeCDF	1.31			J
1,2,3,4,7,8-HxCDF	3.60			
1,2,3,6,7,8-HxCDF	2.64			
2,3,4,6,7,8-HxCDF	5.11			
1,2,3,7,8,9-HxCDF	0.660			J
1,2,3,4,6,7,8-HpCDF	82.0			B
1,2,3,4,7,8,9-HpCDF	7.23			
OCDF	231			

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	107	25 - 164	
	13C-1,2,3,7,8-PeCDD	108	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	101	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	108	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	99.0	23 - 140	
	13C-OCDD	101	17 - 157	
	13C-2,3,7,8-TCDF	113	24 - 169	
	13C-1,2,3,7,8-PeCDF	111	24 - 185	
	13C-2,3,4,7,8-PeCDF	112	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	111	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	112	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	105	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	99.1	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	93.0	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	111	26 - 138	
	13C-OCDF	105	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	87.1	35 - 197	

Totals			
Total TCDD	0.755		
Total PeCDD	10.6	11.9	
Total HxCDD	112		
Total HpCDD	892		
Total TCDF	10.7		
Total PeCDF	24.2		
Total HxCDF	139		
Total HpCDF	334		B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 17.7

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF)

Analyst: DMS

Approved By: William J. Luksemburg 02-Mar-2006 10:36

ALTA

Sample ID:	IPB1429-24 MJ6036			EPA Method 1613
Client Data		**Sample Data**		**Laboratory Data**
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample: 27639-005
Project:	IPD2761	Sample Size:	12.4 g	QC Batch No.: 7987
Date Collected:	14-Feb-06	%Solids:	82.9	Date Analyzed DB-5: 4-May-06
Time Collected:	1510			Date Received: 29-Apr-06
				Date Extracted: 3-May-06
				Date Analyzed DB-225: NA

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	0.534			
1,2,3,7,8-PeCDD	2.20			J
1,2,3,4,7,8-HxCDD	5.25			
1,2,3,6,7,8-HxCDD	32.8			
1,2,3,7,8,9-HxCDD	10.6			
1,2,3,4,6,7,8-HpCDD	1320			
OCDD	18600			B
2,3,7,8-TCDF	0.789			
1,2,3,7,8-PeCDF	0.580			J
2,3,4,7,8-PeCDF	1.64			J
1,2,3,4,7,8-HxCDF	3.65			
1,2,3,6,7,8-HxCDF	3.37			
2,3,4,6,7,8-HxCDF	6.44			
1,2,3,7,8,9-HxCDF	0.968			J
1,2,3,4,6,7,8-HpCDF	100			B,D
1,2,3,4,7,8,9-HpCDF	10.0			
OCDF	245			B

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	94.7	25 - 164	
	13C-1,2,3,7,8-PeCDD	88.6	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	91.0	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	97.8	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	100	23 - 140	
	13C-OCDD	106	17 - 157	
	13C-2,3,7,8-TCDF	104	24 - 169	
	13C-1,2,3,7,8-PeCDF	97.1	24 - 185	
	13C-2,3,4,7,8-PeCDF	95.2	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	92.3	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	90.7	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	94.7	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	96.2	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	92.2	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	87.3	26 - 138	
	13C-OCDF	78.1	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	96.2	35 - 197	

Totals		
Total TCDD	3.12	
Total PeCDD	16.0	
Total HxCDD	264	
Total HpCDD	2440	
Total TCDF	9.32	
Total PeCDF	41.3	
Total HxCDF	192	B,D
Total HpCDF	427	B,D

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 42.0

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: JMH

Approved By: Martha M. Maier 10-May-2006 12:31

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

DATA ASSESSMENT FORM

Project Title: Boeing SSFL RFI, Group 6 Data Gap
Project Manager: D. Hambrick
Analysis/Method: Dioxin/Furans by Method 1613
QC Level: V[1]
SDG: IPD2761
Matrix: Soil
No. of Samples: 4
No. of Reanalyses: 0
Date Reviewed: May 23, 2006
Reviewer: E. Wessling
Reference: *National Functional Guidelines for Chlorinated Dioxin/Furan Data Review* (8/02), USEPA *Method 1613*
Samples Reviewed: MJ725, MJ726, MJ727 and MJ732

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received at Del Mar within the temperature limits of 4° ±2°C. The samples were shipped to Alta for dioxin/furan analysis and were received below the temperature limits at 0.2°C. As the samples were not noted to be damaged or frozen, no qualifications were required. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. The original COC and transfer COC were signed and dated by field personnel. The original COC requested the analysis of dioxins by EPA Method 8290. The transfer COC requested analysis by Method 1613. The laboratory analyzed the samples by Method 1613 as indicated on the transfer COC. The EPA IDs were added to the sample result summaries.	No qualifications were required.

	Findings	Qualifications
Sample Management (cont.)	The samples were extracted and analyzed within one year of sample collection.	No qualifications were required.
4. Method Blank 0-7987-MB001 (soil)	1,2,3,4,6,7,8-HpCDF and OCDF were reported at concentrations below the laboratory lower calibration level in soil method blank, 0-7987-MB001. These target compounds were also reported in the samples of this SDG; however, the detects in the samples exceeded five times the concentration reported in the method blank. 1,2,3,4,7,8-HxCDF was reported as an EMPC in soil method blank 0-7987-MB001.	No qualifications were required.
5. OPR 0-7987-OPR001	All recoveries were within the acceptance criteria listed in Table 6 of Method 1613.	No qualifications were required.
6. MS/MSDs	MS/MSD analyses were not performed on the samples in this SDG.	No qualifications were required.
7. Field QC Samples FB: None ER: MJ615 (IPB1429)	Target compounds 1,2,3,4,6,7,8-HpCDD and OCDD were reported at concentrations below the laboratory lower calibration level in the equipment rinsate; however, reportable sample concentrations for both compounds exceeded five times the equipment rinsate concentrations.	No qualifications were required.
10. Other	An EMPC was identified in this SDG. Target compound 2,3,7,8-TCDF was reported in samples MJ725, MJ726 and MJ732; however, a confirmation analysis was not performed by the laboratory. Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory. Diphenyl ether interference was present in several samples of this SDG and was denoted with a "D" flag by the laboratory. Sample results were reported in units of pg/g on a dry-weight basis.	The EMPC for 2,3,7,8-TCDD was qualified as an estimated nondetect, "UJ." The detects for 2,3,7,8-TCDF were qualified as estimated, "J," in samples MJ725, MJ726 and MJ732. Any detects with diethyl ether interference were qualified as estimated, "J," in the samples of this SDG.

Comments	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 for all samples in this SDG.	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 performance, initial and continuing calibrations.

ALTA

Sample ID:	IPD2761-01 MJ725			EPA Method 1613
Client Data		**Sample Data**	**Laboratory Data**	
Name:	Del Mar Analytical, Irvine	Matrix: Soil	Lab Sample: 27639-001	Date Received: 29-Apr-06
Project:	IPD2761	Sample Size: 11.5 g	QC Batch No.: 7987	Date Extracted: 3-May-06
Date Collected:	10-Apr-06	%Solids: 87.2	Date Analyzed DB-5: 4-May-06	Date Analyzed DB-225: NA
Time Collected:	1205			

	Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
J	2,3,7,8-TCDD	0.269			J
J	1,2,3,7,8-PeCDD	0.588			J
J	1,2,3,4,7,8-HxCDD	1.40			J
	1,2,3,6,7,8-HxCDD	6.54			
	1,2,3,7,8,9-HxCDD	2.81			
	1,2,3,4,6,7,8-HpCDD	204			
	OCDD	2300			B
J	2,3,7,8-TCDF	0.237			J
J	1,2,3,7,8-PeCDF	0.103			J
	2,3,4,7,8-PeCDF	0.350			J
	1,2,3,4,7,8-HxCDF	0.769			J
	1,2,3,6,7,8-HxCDF	0.639			J
	2,3,4,6,7,8-HxCDF	1.21			J
	1,2,3,7,8,9-HxCDF	0.225			J
	1,2,3,4,6,7,8-HpCDF	26.5			B
J	1,2,3,4,7,8,9-HpCDF	2.08			J
	OCDF	75.9			B

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	89.8	25 - 164	
	13C-1,2,3,7,8-PeCDD	83.4	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	83.7	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	87.5	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	75.8	23 - 140	
	13C-OCDD	55.8	17 - 157	
	13C-2,3,7,8-TCDF	95.5	24 - 169	
	13C-1,2,3,7,8-PeCDF	92.2	24 - 185	
	13C-2,3,4,7,8-PeCDF	89.5	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	82.8	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	81.9	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	84.4	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	86.0	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	75.2	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	73.6	26 - 138	
	13C-OCDF	58.5	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	102	35 - 197	

Totals	
Total TCDD	0.573
Total PeCDD	3.27
Total HxCDD	44.6
Total HpCDD	391
Total TCDF	3.21
Total PeCDF	8.56
Total HxCDF	39.0
Total HpCDF	110

Qualifiers

ALTA

Sample ID: IPD2761-02 MJ726 — **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix	Soil	Lab Sample:	27639-002	Date Received:	29-Apr-06
Project:	IPD2761	Sample Size:	13.2 g	QC Batch No.:	7987	Date Extracted:	3-May-06
Date Collected:	10-Apr-06	%Solids:	74.1	Date Analyzed DB-5:	4-May-06	Date Analyzed DB-225:	NA
Time Collected:	1210						

	Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
	2,3,7,8-TCDD	19.8			
	1,2,3,7,8-PeCDD	78.1			
	1,2,3,4,7,8-HxCDD	169			
	1,2,3,6,7,8-HxCDD	1210			
	1,2,3,7,8,9-HxCDD	287			
	1,2,3,4,6,7,8-HpCDD	22100			
	OCDD	295000			
J	2,3,7,8-TCDF	5.44			
	1,2,3,7,8-PeCDF	8.38			
	2,3,4,7,8-PeCDF	30.8			
	1,2,3,4,7,8-HxCDF	150			
J	1,2,3,6,7,8-HxCDF	106			D
	2,3,4,6,7,8-HxCDF	275			
	1,2,3,7,8,9-HxCDF	33.9			
J	1,2,3,4,6,7,8-HpCDF	5680			B,D
	1,2,3,4,7,8,9-HpCDF	486			
	OCDF	14700			B

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	95.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	89.2	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	90.2	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	98.2	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	134	23 - 140	
	13C-OCDD	140	17 - 157	
	13C-2,3,7,8-TCDF	100	24 - 169	
	13C-1,2,3,7,8-PeCDF	97.2	24 - 185	
	13C-2,3,4,7,8-PeCDF	98.0	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	90.5	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	87.1	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	92.7	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	95.1	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	104	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	93.8	26 - 138	
	13C-OCDF	122	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	99.9	35 - 197	

Totals		
Total TCDD	44.0	
Total PeCDD	394	
Total HxCDD	5820	
Total HpCDD	37000	
J Total TCDF	171	D
J Total PeCDF	1350	D
J Total HxCDF	10500	B,D
J Total HpCDF	27200	B,D

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 891

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: JMH

Approved By: Martha M. Maier 10-May-2006 12:31

Level IV

ALTA

Sample ID: IPD2761-03 MS727 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27639-003	Date Received:	29-Apr-06
Project:	IPD2761	Sample Size:	11.7 g	QC Batch No.:	7987	Date Extracted:	3-May-06
Date Collected:	10-Apr-06	%Solids:	83.7	Date Analyzed DB-5:	4-May-06	Date Analyzed DB-225:	NA
Time Collected:	1215						

Analyte	Conc. (pg/g)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND		0.394	
1,2,3,7,8-PeCDD	1.70			J
1,2,3,4,7,8-HxCDD	3.96			
1,2,3,6,7,8-HxCDD	23.5			
1,2,3,7,8,9-HxCDD	6.50			
1,2,3,4,6,7,8-HpCDD	657			
OCDD	6400			B
2,3,7,8-TCDF	ND	0.0403		
1,2,3,7,8-PeCDF	0.218			J
2,3,4,7,8-PeCDF	0.552			J
1,2,3,4,7,8-HxCDF	3.23			
1,2,3,6,7,8-HxCDF	1.85			J
2,3,4,6,7,8-HxCDF	5.78			
1,2,3,7,8,9-HxCDF	0.856			J
1,2,3,4,6,7,8-HpCDF	94.9			B
1,2,3,4,7,8,9-HpCDF	9.41			
OCDF	267			B

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	92.9	25 - 164	
	13C-1,2,3,7,8-PeCDD	86.0	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	87.3	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	92.9	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	85.0	23 - 140	
	13C-OCDD	72.3	17 - 157	
	13C-2,3,7,8-TCDF	97.6	24 - 169	
	13C-1,2,3,7,8-PeCDF	95.1	24 - 185	
	13C-2,3,4,7,8-PeCDF	93.3	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	86.2	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	89.5	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	86.6	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	89.4	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	82.7	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	80.2	26 - 138	
	13C-OCDF	66.2	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	97.7	35 - 197	

Totals

Total TCDD	0.498	
Total PeCDD	8.42	
Total HxCDD	146	
Total HpCDD	1190	
Total TCDF	2.29	
Total PeCDF	26.1	
Total HxCDF	216	B,D
Total HpCDF	527	B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 20.0

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: JMH

Approved By Martha M. Maier 10-May-2006 12:31

ALTA

Sample ID: IPD2761-05 MJ 732 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Soil	Lab Sample:	27639-004	Date Received:	29-Apr-06
Project:	IPD2761	Sample Size:	11.5 g	QC Batch No.:	7987	Date Extracted:	3-May-06
Date Collected:	10-Apr-06	%Solids:	85.2	Date Analyzed DB-5:	4-May-06	Date Analyzed DB-225:	NA
Time Collected:	1235						

Analyte	Conc. (pg/g)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	0.385			J
1,2,3,7,8-PeCDD	1.10			J
1,2,3,4,7,8-HxCDD	3.02			
1,2,3,6,7,8-HxCDD	12.3			
1,2,3,7,8,9-HxCDD	5.85			
1,2,3,4,6,7,8-HpCDD	414			
OCDD	4620			B
2,3,7,8-TCDF	0.246			J
1,2,3,7,8-PeCDF	0.187			J
2,3,4,7,8-PeCDF	0.571			J
1,2,3,4,7,8-HxCDF	1.45			J
1,2,3,6,7,8-HxCDF	1.35			J
2,3,4,6,7,8-HxCDF	2.80			
1,2,3,7,8,9-HxCDF	0.432			J
1,2,3,4,6,7,8-HpCDF	43.2			B
1,2,3,4,7,8,9-HpCDF	4.30			
OCDF	104			B

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	91.0	25 - 164	
	13C-1,2,3,7,8-PeCDD	81.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	90.1	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	94.4	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	91.5	23 - 140	
	13C-OCDD	73.9	17 - 157	
	13C-2,3,7,8-TCDF	102	24 - 169	
	13C-1,2,3,7,8-PeCDF	92.8	24 - 185	
	13C-2,3,4,7,8-PeCDF	89.5	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	88.5	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	86.4	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	90.9	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	94.0	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	91.6	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	86.4	26 - 138	
	13C-OCDF	68.4	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	92.8	35 - 197	

Totals		
Total TCDD	0.749	
Total PeCDD	5.99	
Total HxCDD	88.2	
Total HpCDD	792	
Total TCDF	3.50	
Total PeCDF	14.3	
Total HxCDF	72.6	B,D
Total HpCDF	167	B

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min): 13.3

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: JMH

Approved By: Martha M. Maier 10-May-2006 12:31

OGDEN ENVIRONMENTAL AND ENERGY SERVICES
550 South Wadsworth Blvd., Suite 500, Lakewood, CO 80226
303/935-6505, Fax 303/935-6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Polyaromatic Hydrocarbons by SIM 8270
QC Level:	V[1]
SDG:	RJ503
Matrix:	Soil & Water
No. of Samples:	2
Date Reviewed:	February 21, 2001
Reviewer:	K. McNeill
Reference:	National Functional Guidelines For Organic Data Review (2/94)
Samples Reviewed:	RJ014 & RJ015

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received with cooler temperatures of 13°C and 22°C. The COC was not signed by laboratory personnel, but a receipt checklist was provided.	No qualifications were required.
4. Method Blanks	Two method blanks were reported with this package. Both MBs reported nondetects for all target compounds.	No qualifications were required.
5. LCS/BS	Two laboratory control samples were reported with this SDG. Both LCS samples reported acceptable recoveries (QC limits: 20%-140%).	No qualifications were required.
6. Surrogates	. Both site samples reported acceptable surrogate recovery values.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were reported in this SDG.	No qualifications were required.

	Findings	Qualifications
8. Field QC Samples ER: RJ015 FB: None Duplicates: None	Equipment rinsate RJ015 reported nondetects for all target compounds.	No qualifications were required.
9. Other	The Level IV validation package noted that the laboratory SOP used the criteria of 35%RSD for evaluation of initial calibrations and 35%D for continuing calibrations. The level IV reviewer used the Method 8270 criteria of 15%RSD and 20%D for evaluation of the package. This resulted in calibration qualifications in the Level IV package.	No qualifications were required because initial and continuing calibrations are not reviewed in level V validation reports.
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.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

OGDEN SAMPLE NO.

RJ014

Lab Name: CEIMIC CORP Contract: OGDEN

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: RJ503

Matrix: (soil/water) SOIL Lab Sample ID: 200457-12

Sample wt/vol: 30.4 (g/mL) G Lab File ID: IZ017

Level: (low/med) LOW Date Received: 06/29/00

% Moisture: 7 decanted: (Y/N) N Date Extracted:07/07/00

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/14/00

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	Rev Qual Code
62-75-9	N-Nitrosodimethylamine	4	U	U
91-20-3	Naphthalene	4	U	
91-57-6	2-Methylnaphthalene	4	U	
208-96-8	Acenaphthylene	4	U	
83-32-9	Acenaphthene	4	U	U
86-73-7	Fluorene	4	U	
85-01-8	Phenanthrene	14		
120-12-7	Anthracene	4	U	U
206-44-0	Fluoranthene	31		
129-00-0	Pyrene	23		
56-55-3	Benzo(a)anthracene	12		
218-01-9	Chrysene	24		
205-99-2	Benzo(b)fluoranthene	24		
207-08-9	Benzo(k)fluoranthene	12		
50-32-8	Benzo(a)pyrene	13		
193-39-5	Indeno(1,2,3-cd)pyrene	15		
53-70-3	Dibenzo(a,h)anthracene	8		
191-24-2	Benzo(g,h,i)perylene	18		

OGDEN VALIDATED

LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

OGDEN SAMPLE NO.

RJ015

Lab Name: CEIMIC CORP Contract: OGDEN

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: RJ503

Matrix: (soil/water) WATER Lab Sample ID: 200457-13

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IZ013

Level: (low/med) LOW Date Received: 06/29/00

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/14/00

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
62-75-9	N-Nitrosodimethylamine	0.1	U	U	
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U	U	

LEVEL V