DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: 186133

Prepared by

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I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	186133
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	4
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
BLBS0030AS01	186133001	N/A	Soil	5/15/2007 9:40:00 AM	300.0, 8015B, 8270C
BLBS0030AS02	186133002	N/A	Soil	5/15/2007 9:50:00 AM	300.0, 8015B, 8270C
BLBS0055S01	186133003	N/A	Soil	5/15/2007 10:30:00 AM	300.0, 8015B, 8270C
BLBS0055S02	186133004	N/A	Soil	5/15/2007 10:45:00 AM	300.0, 8015B, 8270C

II. Sample Management

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

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 8270C—Semivolatile Organic Compounds (SVOC)

Reviewed By: E. Wessling
Date Reviewed: June 3, 2007

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

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

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

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

- Blanks: The method blank had a detect for diethyl phthalate; therefore, diethyl phthalate detected in BLBS0055S02 was qualified as an estimated nondetect, "UJ," at the reporting limit. No further target compounds were detected in the method blank. The method blanks had a TIC detect; therefore, the similar detect present in BLBS0055S02 was rejected, "R."

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

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

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on sample BLBS0055S02. All percent recoveries and RPDs were within control limits.

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

    - Field Blanks and Equipment Rinsates: This SDG had no equipment rinsate. There were no target compounds detected in field blank BLQW0019E01 (186235).

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

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

- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for SVOC compounds by Method 8270C. Any reported TICs in the samples of this SDG were qualified as tentatively identified, "N."

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

- Tentatively Identified Compounds: The laboratory performed a TIC search for the samples. Any reported TICs in the samples of this SDG were qualified as estimated, "J." System contaminant TICs were rejected, "R."

- System performance: System performance is not evaluated at a Level V validation.

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

Reviewed By: K. Shadowlight
Date Reviewed: June 2, 2007

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

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

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

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

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

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

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for sample BLBS0030AS01 in this SDG; however, the sample was analyzed at 10× dilution and the MS/MSD spike was diluted out.

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

- Field Blanks and Equipment Rinsates: There were no target compounds detected in the field blank, BLQW0019F01 (186235), or equipment rinsate, BLQW0019E01 (I86359).

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

- Compound Identification: Review is not applicable at a Level V validation. Tthe laboratory reported m-terphenyl, o-terphenyl, and p-terphenyl.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. According to the case narrative for this SDG, samples BLBS0030AS01 and BLBS0030AS02 were analyzed at a 10× dilution due to a thick oily matrix. Any results reported between the MDL and the reporting limit were qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

A. EPA METHOD 300.0—General Minerals

Reviewed By: P. Meeks
Date Reviewed: June 1, 2007

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

- Holding Times: The analytical holding time, 28 days from collection for fluoride, was met.

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

- Blanks: Method blanks and CCBs had no detects.

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

- Laboratory Duplicates: Laboratory duplicate analyses were performed on BLBS0055S01 and the RPD exceeded the control limit at 14%; therefore, fluoride detected in the site soil samples was qualified as estimated, "J."

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on BLBS0055S01. The MS recovery was acceptable but the MSD was recovered below the control limit at 87%; therefore, fluoride detected in the site soil samples was qualified as estimated, "J."

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

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

    - Field Blanks and Equipment Rinsates: Fluoride was not detected in field blank BLQW0019F01 (186235) or equipment rinsate BLQW0019E01 (186359).

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

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**186133**	**Client:**	**SSFL001**	**Project:**	**SSFL00507**
Lab Sample ID:	**186133001**	**Date Collected:**	**05/15/2007 09:40**	**Matrix:**	**SOIL**
		Date Received:	**05/16/2007 09:30**	**%Moisture:**	**3.4**
Client ID:	**BLBS0030AS01**			**Prep Basis:**	**Dry Weight**
Batch ID:	**634772**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL–OA–E–009**
Run Date:	**05/18/2007 14:51**	**Analyst:**	**CAK**	**Instrument:**	**MSD1.I**
Data File:	**s1e1818.d**	**Inj. Vol:**	**.5 uL**	**Dilution:**	**1**
Prep Batch:	**634771**	**Prep Method:**	**SW846 3550B**	**Prep SOP Ref:**	**GL–OA–E–010**
Prep Date:	**05/16/2007 20:52**	**Aliquot:**	**30 g**	**Final Volume:**	**.5 mL**

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
62–75–9	N–Nitrosodimethylamine U *N–Methyl–N–nitrosomethylamin*	U	17.3	ug/kg	3.45	17.3	330
108–95–2	Phenol	U	173	ug/kg	34.5	173	330
95–57–8	2–Chlorophenol	U	173	ug/kg	34.5	173	330
106–46–7	1,4–Dichlorobenzene	U	173	ug/kg	34.5	173	330
621–64–7	N–Nitrosodi–n–propylamine *N–Nitrosodipropylamine*	U	173	ug/kg	34.5	173	250
59–50–7	4–Chloro–3–methylphenol	U	173	ug/kg	17.3	173	330
83–32–9	Acenaphthene	U	17.3	ug/kg	5.77	17.3	330
121–14–2	2,4–Dinitrotoluene	U	173	ug/kg	17.3	173	330
100–02–7	4–Nitrophenol	U	173	ug/kg	34.5	173	830
87–86–5	Pentachlorophenol	U	173	ug/kg	34.5	173	830
129–00–0	Pyrene	U	17.3	ug/kg	5.42	17.3	330
62–53–3	Aniline	U	173	ug/kg	60.4	173	420
111–44–4	Bis(2–chloroethyl)ether *bis(2–Chloroethyl) ether*	U	173	ug/kg	34.5	173	330
541–73–1	1,3–Dichlorobenzene	U	173	ug/kg	34.5	173	330
100–51–6	Benzyl alcohol	U	173	ug/kg	51.8	173	330
95–50–1	1,2–Dichlorobenzene	U	173	ug/kg	34.5	173	330
108–60–1	Bis(2–chloroisopropyl)ether *bis(2–Chloroisopropyl)ether*	U	173	ug/kg	34.5	173	330
95–48–7	2–Methylphenol *o–Cresol*	U	173	ug/kg	34.5	173	330
65794–96–9	4–Methylphenol *m,p–Cresols*	U	173	ug/kg	69.0	173	330
67–72–1	Hexachloroethane	U	173	ug/kg	34.5	173	330
98–95–3	Nitrobenzene	U	173	ug/kg	34.5	173	330
78–59–1	Isophorone	U	173	ug/kg	34.5	173	330
88–75–5	2–Nitrophenol	U	173	ug/kg	17.3	173	330
105–67–9	2,4–Dimethylphenol	U	173	ug/kg	34.5	173	330
111–91–1	Bis(2–chloroethoxy)methane *bis(2–Chloroethoxy)methane*	U	173	ug/kg	34.5	173	330
65–85–0	Benzoic acid	U	345	ug/kg	86.3	345	830
91–20–3	Naphthalene	U	17.3	ug/kg	5.18	17.3	330
106–47–8	4–Chloroaniline	U	173	ug/kg	34.5	173	330
87–68–3	Hexachlorobutadiene	U	173	ug/kg	34.5	173	330
91–57–6	2–Methylnaphthalene	U	17.3	ug/kg	3.45	17.3	330
77–47–4	Hexachlorocyclopentadiene	U	173	ug/kg	34.5	173	830
88–06–2	2,4,6–Trichlorophenol	U	173	ug/kg	34.5	173	330

Comments:

B **For General Chemistry and Organic analysis the target analyte was detected in the associated blank.**
J **Value is estimated**
U **Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.**

Level IV

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	186133	Client:	SSFL001	Project:	SSFL00507
Lab Sample ID:	186133001	Date Collected:	05/15/2007 09:40	Matrix:	SOIL
		Date Received:	05/16/2007 09:30	%Moisture:	3.4
Client ID:	BLBS0030AS01			Prep Basis:	Dry Weight
Batch ID:	634772	Method:	SW846 8270C	SOP Ref:	GL–OA–E–009
Run Date:	05/18/2007 14:51	Analyst:	CAK	Instrument:	MSD1.I
Data File:	s1e1818.d	Inj. Vol:	.5 uL	Dilution:	1
Prep Batch:	634771	Prep Method:	SW846 3550B	Prep SOP Ref:	GL–OA–E–010
Prep Date:	05/16/2007 20:52	Aliquot:	30 g	Final Volume:	.5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
95–95–4	2,4,5–Trichlorophenol U	U	173	ug/kg	34.5	173	330
91–58–7	2–Chloronaphthalene	U	17.3	ug/kg	6.04	17.3	330
88–74–4	2–Nitroaniline *o–Nitroaniline*	U	173	ug/kg	34.5	173	330
99–09–2	3–Nitroaniline *m–Nitroaniline*	U	173	ug/kg	34.5	173	330
131–11–3	Dimethyl phthalate *Dimethylphthalate*	U	17.3	ug/kg	5.18	17.3	330
606–20–2	2,6–Dinitrotoluene	U	173	ug/kg	17.3	173	330
208–96–8	Acenaphthylene	U	17.3	ug/kg	5.18	17.3	330
51–28–5	2,4–Dinitrophenol	U	345	ug/kg	65.6	345	660
132–64–9	Dibenzofuran	U	173	ug/kg	34.5	173	330
84–66–2	Diethyl phthalate *Diethylphthalate* U/B	BJ	7.48	ug/kg	5.18	17.3	330
86–73–7	Fluorene U	U	17.3	ug/kg	5.18	17.3	330
7005–72–3	4–Chlorophenyl phenyl ether *4–Chlorophenylphenylether*	U	173	ug/kg	17.3	173	330
534–52–1	4,6–Dinitro–2–methylphenol *2–Methyl–4,6–dinitrophenol*	U	173	ug/kg	34.5	173	420
100–01–6	4–Nitroaniline *p–Nitroaniline*	U	173	ug/kg	34.5	173	830
122–39–4	Diphenylamine	U	173	ug/kg	34.5	173	330
122–66–7	1,2–Diphenylhydrazine/Azobenzen *1,2–Diphenylhydrazine*	U	173	ug/kg	34.5	173	330
101–55–3	4–Bromophenyl phenyl ether *4–Bromophenylphenylether*	U	173	ug/kg	17.3	173	330
118–74–1	Hexachlorobenzene	U	173	ug/kg	34.5	173	330
85–01–8	Phenanthrene	U	17.3	ug/kg	5.18	17.3	330
120–12–7	Anthracene	U	17.3	ug/kg	3.45	17.3	330
84–74–2	Di–n–butyl phthalate *Di–n–butylphthalate*	U	17.3	ug/kg	5.18	17.3	330
206–44–0	Fluoranthene	U	17.3	ug/kg	5.18	17.3	330
92–87–5	Benzidine	U	173	ug/kg	173	173	660
85–68–7	Butyl benzyl phthalate *Butylbenzylphthalate*	U	17.3	ug/kg	5.18	17.3	330
56–55–3	Benzo(a)anthracene	U	17.3	ug/kg	5.18	17.3	330
91–94–1	3,3'–Dichlorobenzidine	U	173	ug/kg	51.8	173	830
218–01–9	Chrysene	U	17.3	ug/kg	5.18	17.3	330
117–81–7	Bis(2–ethylhexyl)phthalate *bis(2–Ethylhexyl)phthalate*	U	17.3	ug/kg	3.45	17.3	330
117–84–0	Di–n–octyl phthalate *Di–n–octylphthalate*	U	17.3	ug/kg	5.18	17.3	330
205–99–2	Benzo(b)fluoranthene	U	17.3	ug/kg	5.18	17.3	330
207–08–9	Benzo(k)fluoranthene	U	17.3	ug/kg	5.18	17.3	330
50–32–8	Benzo(a)pyrene	U	17.3	ug/kg	5.18	17.3	330

Comments:

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
J Value is estimated
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level V

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	186133	**Client:**	SSFL001	**Project:**	SSFL00507
Lab Sample ID:	186133001	**Date Collected:**	05/15/2007 09:40	**Matrix:**	SOIL
		Date Received:	05/16/2007 09:30	**%Moisture:**	3.4
Client ID:	BLBS0030AS01			**Prep Basis:**	Dry Weight
Batch ID:	634772	**Method:**	SW846 8270C	**SOP Ref:**	GL–OA–E–009
Run Date:	05/18/2007 14:51	**Analyst:**	CAK	**Instrument:**	MSD1.I
Data File:	s1e1818.d	**Inj. Vol:**	.5 uL	**Dilution:**	1
Prep Batch:	634771	**Prep Method:**	SW846 3550B	**Prep SOP Ref:**	GL–OA–E–010
Prep Date:	05/16/2007 20:52	**Aliquot:**	30 g	**Final Volume:**	.5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
193–39–5	Indeno(1,2,3–cd)pyrene U	U	17.3	ug/kg	5.18	17.3	330
53–70–3	Dibenzo(a,h)anthracene	U	17.3	ug/kg	5.18	17.3	420
191–24–2	Benzo(ghi)perylene	U	17.3	ug/kg	5.18	17.3	330
87–65–0	2,6–Dichlorophenol	U	173	ug/kg	34.5	173	330
120–82–1	1,2,4–Trichlorobenzene	U	173	ug/kg	34.5	173	330

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
2,4,6–Tribromophenol	1050	1730	ug/kg	61	(45%–97%)
2–Fluorophenol	991	1730	ug/kg	57	(35%–98%)
Phenol–d5	1090	1730	ug/kg	63	(45%–95%)
2–Fluorobiphenyl	532	863	ug/kg	62	(45%–101%)
Nitrobenzene–d5	587	863	ug/kg	68	(45%–101%)
p–Terphenyl–d14	585	863	ug/kg	68	(41%–114%)

Comments:

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
J Value is estimated
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level II

Semi–Volatile
Tentatively Identified Compound
Sample Summary

SDG Number:	186133	**Date Collected:**	05/15/2007 09:40	**Matrix:**	SOIL
Lab Sample ID:	186133001	**Date Received:**	05/16/2007 09:30	**%Moisture:**	3.4
		Client:	SSFL001	**Project:**	SSFL00507

Client ID:	BLBS0030AS01	**Method:**	SW846 8270C	**SOP Ref:**	GL–OA–E–009
Batch ID:	634772	**Inst:**	MSD1.I	**Dilution:**	1
Run Date:	05/18/2007 14:51	**Analyst:**	CAK	**Inj. Vol:**	.5 uL
Prep Date:	05/16/2007 20:52	**Aliquot:**	30 g	**Final Volume:**	.5 mL

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated Concentration	Units	Fit	Qual
	Unknown NJ	10.09	332	ug/kg		J
	Unknown	10.47	171	ug/kg		J
	Unknown Aldol Condensate R/~~XIII~~	2.79	287	ug/kg		JA
	Unknown NJ	8.56	252	ug/kg		J
54482–31–4	D–Homoandrostane, (5.alpha.,13.alpha.)–	8.59	392	ug/kg	94	NJ
	Unknown	8.63	199	ug/kg		J
	Unknown	8.67	346	ug/kg		J
	Unknown	8.7	344	ug/kg		J
309735–29–3	1,2–Benzisothiazole, 3–(hexahydro–1H–aze	8.74	341	ug/kg	91	NJ
	Unknown	8.76	344	ug/kg		J
	Unknown	8.8	244	ug/kg		J
	Unknown	8.83	392	ug/kg		J
	Unknown	8.87	331	ug/kg		J
438–23–3	Androstane, (5.beta.)–	8.9	486	ug/kg	83	NJ
1000303–05–9	Pyridine, 4–[5–(2–methoxyphenyl)–[1,3,4]	8.98	629	ug/kg	91	NJ
86917–79–5	6–Isopropenyl–4,8a–dimethyl–4a,5,6,7,8,8	9.02	281	ug/kg	83	NJ
	Unknown	9.07	396	ug/kg		J
	Unknown	9.1	191	ug/kg		J
	Unknown	9.25	216	ug/kg		J
	Unknown	9.3	274	ug/kg		J
	Unknown	9.32	220	ug/kg		J

Level IV

Semi–Volatile
Tentatively Identified Compound
Sample Summary

SDG Number:	186133	Date Collected:	05/15/2007 09:40	Matrix:	SOIL
Lab Sample ID:	186133001	Date Received:	05/16/2007 09:30	%Moisture:	3.4
		Client:	SSFL001	Project:	SSFL00507

Client ID:	BLBS0030AS01	Method:	SW846 8270C	SOP Ref:	GL–OA–E–009
Batch ID:	634772	Inst:	MSD1.I	Dilution:	1
Run Date:	05/18/2007 14:51	Analyst:	CAK	Inj. Vol:	.5 uL
Prep Date:	05/16/2007 20:52	Aliquot:	30 g	Final Volume:	.5 mL

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated Concentration	Units	Fit	Qual
	Unknown NJ	9.37	207	ug/kg		J
1000100–23–6	Decahydro–8a–ethyl–1,1,4a,6–tetramethyln	9.41	196	ug/kg	97	NJ
	Unknown	9.45	188	ug/kg		J
86917–79–5	6–Isopropenyl–4,8a–dimethyl–4a,5,6,7,8,8	9.49	231	ug/kg	89	NJ
601–58–1	Stigmastane	9.65	368	ug/kg	92	NJ
	Unknown	9.73	217	ug/kg		J
	Unknown	9.76	264	ug/kg		J
	Unknown	9.82	299	ug/kg		J
	Unknown	9.97	302	ug/kg		J

Level II

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**186133**	**Client:**	**SSFL001**	**Project:**	**SSFL00507**
Lab Sample ID:	**186133002**	**Date Collected:**	**05/15/2007 09:50**	**Matrix:**	**SOIL**
		Date Received:	**05/16/2007 09:30**	**%Moisture:**	**6.5**
Client ID:	**BLBS0030AS02**			**Prep Basis:**	**Dry Weight**
Batch ID:	**634772**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL–OA–E–009**
Run Date:	**05/18/2007 15:12**	**Analyst:**	**CAK**	**Instrument:**	**MSD1.I**
Data File:	**s1e1819.d**	**Inj. Vol:**	**.5 uL**	**Dilution:**	**1**
Prep Batch:	**634771**	**Prep Method:**	**SW846 3550B**	**Prep SOP Ref:**	**GL–OA–E–010**
Prep Date:	**05/16/2007 20:52**	**Aliquot:**	**30 g**	**Final Volume:**	**.5 mL**

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
62–75–9	N–Nitrosodimethylamine *N–Methyl–N–nitrosomethylamin*	U	17.8	ug/kg	3.57	17.8	330
108–95–2	Phenol	U	178	ug/kg	35.7	178	330
95–57–8	2–Chlorophenol	U	178	ug/kg	35.7	178	330
106–46–7	1,4–Dichlorobenzene	U	178	ug/kg	35.7	178	330
621–64–7	N–Nitrosodi–n–propylamine *N–Nitrosodipropylamine*	U	178	ug/kg	35.7	178	250
59–50–7	4–Chloro–3–methylphenol	U	178	ug/kg	17.8	178	330
83–32–9	Acenaphthene	U	17.8	ug/kg	5.95	17.8	330
121–14–2	2,4–Dinitrotoluene	U	178	ug/kg	17.8	178	330
100–02–7	4–Nitrophenol	U	178	ug/kg	35.7	178	830
87–86–5	Pentachlorophenol	U	178	ug/kg	35.7	178	830
129–00–0	Pyrene	U	17.8	ug/kg	5.60	17.8	330
62–53–3	Aniline	U	178	ug/kg	62.4	178	420
111–44–4	Bis(2–chloroethyl)ether *bis(2–Chloroethyl) ether*	U	178	ug/kg	35.7	178	330
541–73–1	1,3–Dichlorobenzene	U	178	ug/kg	35.7	178	330
100–51–6	Benzyl alcohol	U	178	ug/kg	53.5	178	330
95–50–1	1,2–Dichlorobenzene	U	178	ug/kg	35.7	178	330
108–60–1	Bis(2–chloroisopropyl)ether *bis(2–Chloroisopropyl)ether*	U	178	ug/kg	35.7	178	330
95–48–7	2–Methylphenol *o–Cresol*	U	178	ug/kg	35.7	178	330
65794–96–9	4–Methylphenol *m,p–Cresols*	U	178	ug/kg	71.3	178	330
67–72–1	Hexachloroethane	U	178	ug/kg	35.7	178	330
98–95–3	Nitrobenzene	U	178	ug/kg	35.7	178	330
78–59–1	Isophorone	U	178	ug/kg	35.7	178	330
88–75–5	2–Nitrophenol	U	178	ug/kg	17.8	178	330
105–67–9	2,4–Dimethylphenol	U	178	ug/kg	35.7	178	330
111–91–1	Bis(2–chloroethoxy)methane *bis(2–Chloroethoxy)methane*	U	178	ug/kg	35.7	178	330
65–85–0	Benzoic acid	U	357	ug/kg	89.1	357	830
91–20–3	Naphthalene	U	17.8	ug/kg	5.35	17.8	330
106–47–8	4–Chloroaniline	U	178	ug/kg	35.7	178	330
87–68–3	Hexachlorobutadiene	U	178	ug/kg	35.7	178	330
91–57–6	2–Methylnaphthalene	U	17.8	ug/kg	3.57	17.8	330
77–47–4	Hexachlorocyclopentadiene	U	178	ug/kg	35.7	178	830
88–06–2	2,4,6–Trichlorophenol	U	178	ug/kg	35.7	178	330

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level IV

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**186133**	**Client:**	**SSFL001**	**Project:**	**SSFL00507**
Lab Sample ID:	**186133002**	**Date Collected:**	**05/15/2007 09:50**	**Matrix:**	**SOIL**
		Date Received:	**05/16/2007 09:30**	**%Moisture:**	**6.5**
Client ID:	**BLBS0030AS02**			**Prep Basis:**	**Dry Weight**
Batch ID:	**634772**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL–OA–E–009**
Run Date:	**05/18/2007 15:12**	**Analyst:**	**CAK**	**Instrument:**	**MSD1.I**
Data File:	**s1e1819.d**	**Inj. Vol:**	**.5 uL**	**Dilution:**	**1**
Prep Batch:	**634771**	**Prep Method:**	**SW846 3550B**	**Prep SOP Ref:**	**GL–OA–E–010**
Prep Date:	**05/16/2007 20:52**	**Aliquot:**	**30 g**	**Final Volume:**	**.5 mL**

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
95–95–4	2,4,5–Trichlorophenol	U	178	ug/kg	35.7	178	330
91–58–7	2–Chloronaphthalene	U	17.8	ug/kg	6.24	17.8	330
88–74–4	2–Nitroaniline *o–Nitroaniline*	U	178	ug/kg	35.7	178	330
99–09–2	3–Nitroaniline *m–Nitroaniline*	U	178	ug/kg	35.7	178	330
131–11–3	Dimethyl phthalate *Dimethylphthalate*	U	17.8	ug/kg	5.35	17.8	330
606–20–2	2,6–Dinitrotoluene	U	178	ug/kg	17.8	178	330
208–96–8	Acenaphthylene	U	17.8	ug/kg	5.35	17.8	330
51–28–5	2,4–Dinitrophenol	U	357	ug/kg	67.7	357	660
132–64–9	Dibenzofuran	U	178	ug/kg	35.7	178	330
84–66–2	Diethyl phthalate *Diethylphthalate*	U	17.8	ug/kg	5.35	17.8	330
86–73–7	Fluorene	U	17.8	ug/kg	5.35	17.8	330
7005–72–3	4–Chlorophenyl phenyl ether *4–Chlorophenylphenylether*	U	178	ug/kg	17.8	178	330
534–52–1	4,6–Dinitro–2–methylphenol *2–Methyl–4,6–dinitrophenol*	U	178	ug/kg	35.7	178	420
100–01–6	4–Nitroaniline *p–Nitroaniline*	U	178	ug/kg	35.7	178	830
122–39–4	Diphenylamine	U	178	ug/kg	35.7	178	330
122–66–7	1,2–Diphenylhydrazine/Azobenzen *1,2–Diphenylhydrazine*	U	178	ug/kg	35.7	178	330
101–55–3	4–Bromophenyl phenyl ether *4–Bromophenylphenylether*	U	178	ug/kg	17.8	178	330
118–74–1	Hexachlorobenzene	U	178	ug/kg	35.7	178	330
85–01–8	Phenanthrene	U	17.8	ug/kg	5.35	17.8	330
120–12–7	Anthracene	U	17.8	ug/kg	3.57	17.8	330
84–74–2	Di–n–butyl phthalate *Di–n–butylphthalate*	U	17.8	ug/kg	5.35	17.8	330
206–44–0	Fluoranthene	U	17.8	ug/kg	5.35	17.8	330
92–87–5	Benzidine	U	178	ug/kg	178	178	660
85–68–7	Butyl benzyl phthalate *Butylbenzylphthalate*	U	17.8	ug/kg	5.35	17.8	330
56–55–3	Benzo(a)anthracene	U	17.8	ug/kg	5.35	17.8	330
91–94–1	3,3'–Dichlorobenzidine	U	178	ug/kg	53.5	178	830
218–01–9	Chrysene	U	17.8	ug/kg	5.35	17.8	330
117–81–7	Bis(2–ethylhexyl)phthalate *bis(2–Ethylhexyl)phthalate*	J	11.3	ug/kg	3.57	17.8	330
117–84–0	Di–n–octyl phthalate *Di–n–octylphthalate*	U	17.8	ug/kg	5.35	17.8	330
205–99–2	Benzo(b)fluoranthene	U	17.8	ug/kg	5.35	17.8	330
207–08–9	Benzo(k)fluoranthene	U	17.8	ug/kg	5.35	17.8	330
50–32–8	Benzo(a)pyrene	U	17.8	ug/kg	5.35	17.8	330

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level I

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	186133	**Client:**	SSFL001	**Project:**	SSFL00507
Lab Sample ID:	186133002	**Date Collected:**	05/15/2007 09:50	**Matrix:**	SOIL
		Date Received:	05/16/2007 09:30	**%Moisture:**	6.5
Client ID:	BLBS0030AS02			**Prep Basis:**	Dry Weight
Batch ID:	634772	**Method:**	SW846 8270C	**SOP Ref:**	GL–OA–E–009
Run Date:	05/18/2007 15:12	**Analyst:**	CAK	**Instrument:**	MSD1.I
Data File:	s1e1819.d	**Inj. Vol:**	.5 uL	**Dilution:**	1
Prep Batch:	634771	**Prep Method:**	SW846 3550B	**Prep SOP Ref:**	GL–OA–E–010
Prep Date:	05/16/2007 20:52	**Aliquot:**	30 g	**Final Volume:**	.5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
193–39–5	Indeno(1,2,3–cd)pyrene	U	17.8	ug/kg	5.35	17.8	330
53–70–3	Dibenzo(a,h)anthracene	U	17.8	ug/kg	5.35	17.8	420
191–24–2	Benzo(ghi)perylene	U	17.8	ug/kg	5.35	17.8	330
87–65–0	2,6–Dichlorophenol	U	178	ug/kg	35.7	178	330
120–82–1	1,2,4–Trichlorobenzene	U	178	ug/kg	35.7	178	330

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
2,4,6–Tribromophenol	1410	1780	ug/kg	79	(45%–97%)
2–Fluorophenol	1160	1780	ug/kg	65	(35%–98%)
Phenol–d5	1110	1780	ug/kg	62	(45%–95%)
2–Fluorobiphenyl	604	891	ug/kg	68	(45%–101%)
Nitrobenzene–d5	630	891	ug/kg	71	(45%–101%)
p–Terphenyl–d14	633	891	ug/kg	71	(41%–114%)

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level V

Semi–Volatile
Tentatively Identified Compound
Sample Summary

SDG Number:	186133	Date Collected:	05/15/2007 09:50	Matrix:	SOIL
Lab Sample ID:	186133002	Date Received:	05/16/2007 09:30	%Moisture:	6.5
		Client:	SSFL001	Project:	SSFL00507

Client ID:	BLBS0030AS02	Method:	SW846 8270C	SOP Ref:	GL–OA–E–009
Batch ID:	634772	Inst:	MSD1.I	Dilution:	1
Run Date:	05/18/2007 15:12	Analyst:	CAK	Inj. Vol:	.5 uL
Prep Date:	05/16/2007 20:52	Aliquot:	30 g	Final Volume:	.5 mL

CAS No.	Tentatively Identified Compound (TIC)		RT	Estimated Concentration	Units	Fit	Qual
	Unknown	NJ	10.07	227	ug/kg		J
53584–60–4	28–Nor–17.alpha.(H)–hopane		10.14	200	ug/kg	81	NJ
	Unknown		10.25	252	ug/kg		J
	Unknown Aldol Condensate	R/~~NJ~~	2.79	384	ug/kg		JA
	Unknown	NJ	7.92	165	ug/kg		J
	Unknown		8.17	281	ug/kg		J
112–95–8	Eicosane		8.27	193	ug/kg	93	NJ
	Unknown		8.53	170	ug/kg		J
	Unknown		8.57	171	ug/kg		J
3386–33–2	Octadecane, 1–chloro–		8.65	188	ug/kg	95	NJ
24887–75–0	Androstane		8.69	199	ug/kg	83	NJ
	Unknown		8.73	150	ug/kg		J
54482–31–4	D–Homoandrostane, (5.alpha.,13.alpha.)–		8.75	154	ug/kg	89	NJ
	Unknown		8.79	166	ug/kg		J
	Unknown		8.81	177	ug/kg		J
	Unknown		8.88	310	ug/kg		J
54482–31–4	D–Homoandrostane, (5.alpha.,13.alpha.)–		8.96	296	ug/kg	94	NJ
	Unknown		9	232	ug/kg		J
	Unknown		9.06	256	ug/kg		J
593–45–3	Octadecane		9.14	392	ug/kg	96	NJ
1000144–10–2	2–Methyl–3–(3–methyl–but–2–enyl)–2–(4–me		9.27	282	ug/kg	86	NJ

Level II

Semi–Volatile
Tentatively Identified Compound
Sample Summary

SDG Number:	186133	Date Collected:	05/15/2007 09:50	Matrix:	SOIL
Lab Sample ID:	186133002	Date Received:	05/16/2007 09:30	%Moisture:	6.5
		Client:	SSFL001	Project:	SSFL00507

Client ID:	BLBS0030AS02	Method:	SW846 8270C	SOP Ref:	GL–OA–E–009
Batch ID:	634772	Inst:	MSD1.I	Dilution:	1
Run Date:	05/18/2007 15:12	Analyst:	CAK	Inj. Vol:	.5 uL
Prep Date:	05/16/2007 20:52	Aliquot:	30 g	Final Volume:	.5 mL

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated Concentration	Units	Fit	Qual
	Unknown	9.31	209	ug/kg		J
	Unknown	9.35	227	ug/kg		J
1000144–54–1	Methyl 5–methyl–2–ethenyl–cyclohexane–1–	9.38	223	ug/kg	80	NJ
61050–91–7	Spiro[4.5]decan–7–one, 1,8–dimethyl–8,9–	9.46	202	ug/kg	80	NJ
86917–79–5	6–Isopropenyl–4,8a–dimethyl–4a,5,6,7,8,8	9.49	252	ug/kg	83	NJ
	Unknown	9.63	236	ug/kg		J
	Unknown	9.73	230	ug/kg		J
4860–03–1	Hexadecane, 1–chloro–	9.82	341	ug/kg	90	NJ
	Unknown	9.95	286	ug/kg		J

Level IV

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	**186133**	**Client:**	**SSFL001**	**Project:**	**SSFL00507**
Lab Sample ID:	**186133003**	**Date Collected:**	**05/15/2007 10:30**	**Matrix:**	**SOIL**
		Date Received:	**05/16/2007 09:30**	**%Moisture:**	**3.1**
Client ID:	**BLBS0055S01**			**Prep Basis:**	**Dry Weight**
Batch ID:	**634772**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL–OA–E–009**
Run Date:	**05/18/2007 15:34**	**Analyst:**	**CAK**	**Instrument:**	**MSD1.I**
Data File:	**s1e1820.d**	**Inj. Vol:**	**.5 uL**	**Dilution:**	**1**
Prep Batch:	**634771**	**Prep Method:**	**SW846 3550B**	**Prep SOP Ref:**	**GL–OA–E–010**
Prep Date:	**05/16/2007 20:52**	**Aliquot:**	**30 g**	**Final Volume:**	**.5 mL**

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
62–75–9	N–Nitrosodimethylamine u *N–Methyl–N–nitrosomethylamin*	U	17.2	ug/kg	3.44	17.2	330
108–95–2	Phenol	U	172	ug/kg	34.4	172	330
95–57–8	2–Chlorophenol	U	172	ug/kg	34.4	172	330
106–46–7	1,4–Dichlorobenzene	U	172	ug/kg	34.4	172	330
621–64–7	N–Nitrosodi–n–propylamine *N–Nitrosodipropylamine*	U	172	ug/kg	34.4	172	250
59–50–7	4–Chloro–3–methylphenol	U	172	ug/kg	17.2	172	330
83–32–9	Acenaphthene	U	17.2	ug/kg	5.75	17.2	330
121–14–2	2,4–Dinitrotoluene	U	172	ug/kg	17.2	172	330
100–02–7	4–Nitrophenol	U	172	ug/kg	34.4	172	830
87–86–5	Pentachlorophenol	U	172	ug/kg	34.4	172	830
129–00–0	Pyrene J	J	13.9	ug/kg	5.40	17.2	330
62–53–3	Aniline u	U	172	ug/kg	60.2	172	420
111–44–4	Bis(2–chloroethyl)ether *bis(2–Chloroethyl) ether*	U	172	ug/kg	34.4	172	330
541–73–1	1,3–Dichlorobenzene	U	172	ug/kg	34.4	172	330
100–51–6	Benzyl alcohol	U	172	ug/kg	51.6	172	330
95–50–1	1,2–Dichlorobenzene	U	172	ug/kg	34.4	172	330
108–60–1	Bis(2–chloroisopropyl)ether *bis(2–Chloroisopropyl)ether*	U	172	ug/kg	34.4	172	330
95–48–7	2–Methylphenol *o–Cresol*	U	172	ug/kg	34.4	172	330
65794–96–9	4–Methylphenol *m,p–Cresols*	U	172	ug/kg	68.8	172	330
67–72–1	Hexachloroethane	U	172	ug/kg	34.4	172	330
98–95–3	Nitrobenzene	U	172	ug/kg	34.4	172	330
78–59–1	Isophorone	U	172	ug/kg	34.4	172	330
88–75–5	2–Nitrophenol	U	172	ug/kg	17.2	172	330
105–67–9	2,4–Dimethylphenol	U	172	ug/kg	34.4	172	330
111–91–1	Bis(2–chloroethoxy)methane *bis(2–Chloroethoxy)methane*	U	172	ug/kg	34.4	172	330
65–85–0	Benzoic acid	U	344	ug/kg	86.0	344	830
91–20–3	Naphthalene	U	17.2	ug/kg	5.16	17.2	330
106–47–8	4–Chloroaniline	U	172	ug/kg	34.4	172	330
87–68–3	Hexachlorobutadiene	U	172	ug/kg	34.4	172	330
91–57–6	2–Methylnaphthalene	U	17.2	ug/kg	3.44	17.2	330
77–47–4	Hexachlorocyclopentadiene	U	172	ug/kg	34.4	172	830
88–06–2	2,4,6–Trichlorophenol	U	172	ug/kg	34.4	172	330

Comments:

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.**

EA 6/26/07

Level IV

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	186133	**Client:**	SSFL001	**Project:**	SSFL00507
Lab Sample ID:	186133003	**Date Collected:**	05/15/2007 10:30	**Matrix:**	SOIL
		Date Received:	05/16/2007 09:30	**%Moisture:**	3.1
Client ID:	BLBS0055S01			**Prep Basis:**	Dry Weight
Batch ID:	634772	**Method:**	SW846 8270C	**SOP Ref:**	GL–OA–E–009
Run Date:	05/18/2007 15:34	**Analyst:**	CAK	**Instrument:**	MSD1.I
Data File:	s1e1820.d	**Inj. Vol:**	.5 uL	**Dilution:**	1
Prep Batch:	634771	**Prep Method:**	SW846 3550B	**Prep SOP Ref:**	GL–OA–E–010
Prep Date:	05/16/2007 20:52	**Aliquot:**	30 g	**Final Volume:**	.5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
95–95–4	2,4,5–Trichlorophenol u	U	172	ug/kg	34.4	172	330
91–58–7	2–Chloronaphthalene	U	17.2	ug/kg	6.02	17.2	330
88–74–4	2–Nitroaniline *o–Nitroaniline*	U	172	ug/kg	34.4	172	330
99–09–2	3–Nitroaniline *m–Nitroaniline*	U	172	ug/kg	34.4	172	330
131–11–3	Dimethyl phthalate *Dimethylphthalate*	U	17.2	ug/kg	5.16	17.2	330
606–20–2	2,6–Dinitrotoluene	U	172	ug/kg	17.2	172	330
208–96–8	Acenaphthylene	U	17.2	ug/kg	5.16	17.2	330
51–28–5	2,4–Dinitrophenol	U	344	ug/kg	65.4	344	660
132–64–9	Dibenzofuran	U	172	ug/kg	34.4	172	330
84–66–2	Diethyl phthalate *Diethylphthalate*	U	17.2	ug/kg	5.16	17.2	330
86–73–7	Fluorene	U	17.2	ug/kg	5.16	17.2	330
7005–72–3	4–Chlorophenyl phenyl ether *4–Chlorophenylphenylether*	U	172	ug/kg	17.2	172	330
534–52–1	4,6–Dinitro–2–methylphenol *2–Methyl–4,6–dinitrophenol*	U	172	ug/kg	34.4	172	420
100–01–6	4–Nitroaniline *p–Nitroaniline*	U	172	ug/kg	34.4	172	830
122–39–4	Diphenylamine	U	172	ug/kg	34.4	172	330
122–66–7	1,2–Diphenylhydrazine/Azobenzen *1,2–Diphenylhydrazine*	U	172	ug/kg	34.4	172	330
101–55–3	4–Bromophenyl phenyl ether *4–Bromophenylphenylether*	U	172	ug/kg	17.2	172	330
118–74–1	Hexachlorobenzene	U	172	ug/kg	34.4	172	330
85–01–8	Phenanthrene	U	17.2	ug/kg	5.16	17.2	330
120–12–7	Anthracene	U	17.2	ug/kg	3.44	17.2	330
84–74–2	Di–n–butyl phthalate *Di–n–butylphthalate*	U	17.2	ug/kg	5.16	17.2	330
206–44–0	Fluoranthene J	J	10.8	ug/kg	5.16	17.2	330
92–87–5	Benzidine u	U	172	ug/kg	172	172	660
85–68–7	Butyl benzyl phthalate u *Butylbenzylphthalate*	U	17.2	ug/kg	5.16	17.2	330
56–55–3	Benzo(a)anthracene J	J	9.55	ug/kg	5.16	17.2	330
91–94–1	3,3'–Dichlorobenzidine u	U	172	ug/kg	51.6	172	830
218–01–9	Chrysene J	J	12.7	ug/kg	5.16	17.2	330
117–81–7	Bis(2–ethylhexyl)phthalate u *bis(2–Ethylhexyl)phthalate*	U	17.2	ug/kg	3.44	17.2	330
117–84–0	Di–n–octyl phthalate u *Di–n–octylphthalate*	U	17.2	ug/kg	5.16	17.2	330
205–99–2	Benzo(b)fluoranthene	U	17.2	ug/kg	5.16	17.2	330
207–08–9	Benzo(k)fluoranthene	U	17.2	ug/kg	5.16	17.2	330
50–32–8	Benzo(a)pyrene	U	17.2	ug/kg	5.16	17.2	330

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level IV

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	186133	**Client:**	SSFL001	**Project:**	SSFL00507
Lab Sample ID:	186133003	**Date Collected:**	05/15/2007 10:30	**Matrix:**	SOIL
		Date Received:	05/16/2007 09:30	**%Moisture:**	3.1
Client ID:	BLBS0055S01			**Prep Basis:**	Dry Weight
Batch ID:	634772	**Method:**	SW846 8270C	**SOP Ref:**	GL–OA–E–009
Run Date:	05/18/2007 15:34	**Analyst:**	CAK	**Instrument:**	MSD1.I
Data File:	s1e1820.d	**Inj. Vol:**	.5 uL	**Dilution:**	1
Prep Batch:	634771	**Prep Method:**	SW846 3550B	**Prep SOP Ref:**	GL–OA–E–010
Prep Date:	05/16/2007 20:52	**Aliquot:**	30 g	**Final Volume:**	.5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
193–39–5	Indeno(1,2,3–cd)pyrene	U	17.2	ug/kg	5.16	17.2	330
53–70–3	Dibenzo(a,h)anthracene	U	17.2	ug/kg	5.16	17.2	420
191–24–2	Benzo(ghi)perylene	U	17.2	ug/kg	5.16	17.2	330
87–65–0	2,6–Dichlorophenol	U	172	ug/kg	34.4	172	330
120–82–1	1,2,4–Trichlorobenzene	U	172	ug/kg	34.4	172	330

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
2,4,6–Tribromophenol	1080	1720	ug/kg	63	(45%–97%)
2–Fluorophenol	968	1720	ug/kg	56	(35%–98%)
Phenol–d5	963	1720	ug/kg	56	(45%–95%)
2–Fluorobiphenyl	490	860	ug/kg	57	(45%–101%)
Nitrobenzene–d5	522	860	ug/kg	61	(45%–101%)
p–Terphenyl–d14	592	860	ug/kg	69	(41%–114%)

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level V

Semi–Volatile
Tentatively Identified Compound
Sample Summary

SDG Number:	186133	Date Collected:	05/15/2007 10:30	Matrix:	SOIL
Lab Sample ID:	186133003	Date Received:	05/16/2007 09:30	%Moisture:	3.1
		Client:	SSFL001	Project:	SSFL00507

Client ID:	BLBS0055S01	Method:	SW846 8270C	SOP Ref:	GL–OA–E–009
Batch ID:	634772	Inst:	MSD1.I	Dilution:	1
Run Date:	05/18/2007 15:34	Analyst:	CAK	Inj. Vol:	.5 uL
Prep Date:	05/16/2007 20:52	Aliquot:	30 g	Final Volume:	.5 mL

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated Concentration	Units	Fit	Qual
	Unknown	8.02	304	ug/kg		J
	Unknown	8.15	494	ug/kg		J
19780–11–1	2–Dodecen–1–yl(–)succinic anhydride	8.23	483	ug/kg	93	NJ
	Unknown	8.27	329	ug/kg		J
	Unknown	8.29	232	ug/kg		J
	Unknown	8.33	239	ug/kg		J
	Unknown	8.36	297	ug/kg		J
	Unknown	8.38	236	ug/kg		J
	Unknown	8.4	277	ug/kg		J
	Unknown	8.53	425	ug/kg		J
	Unknown	8.56	237	ug/kg		J
	Unknown	8.57	233	ug/kg		J
	Unknown	8.6	229	ug/kg		J
1786–12–5	Cyclotetradecane, 1,7,11–trimethyl–4–(1–	8.65	366	ug/kg	89	NJ
	Unknown	8.68	272	ug/kg		J
4230–32–4	Bicyclo[2.2.1]heptane–2,5–dione, 1,7,7–t	8.72	319	ug/kg	90	NJ
	Unknown	8.75	271	ug/kg		J
	Unknown	8.79	310	ug/kg		J
	Unknown	8.82	385	ug/kg		J
	Unknown	8.88	256	ug/kg		J
61050–91–7	Spiro[4.5]decan–7–one, 1,8–dimethyl–8,9–	8.9	254	ug/kg	89	NJ

NJ

hexed V

Semi–Volatile
Tentatively Identified Compound
Sample Summary

SDG Number:	**186133**	**Date Collected:**	**05/15/2007 10:30**	**Matrix:**	**SOIL**
Lab Sample ID:	**186133003**	**Date Received:**	**05/16/2007 09:30**	**%Moisture:**	**3.1**
		Client:	**SSFL001**	**Project:**	**SSFL00507**

Client ID:	**BLBS0055S01**	**Method:**	**SW846 8270C**	**SOP Ref:**	**GL–OA–E–009**
Batch ID:	**634772**	**Inst:**	**MSD1.I**	**Dilution:**	**1**
Run Date:	**05/18/2007 15:34**	**Analyst:**	**CAK**	**Inj. Vol:**	**.5 uL**
Prep Date:	**05/16/2007 20:52**	**Aliquot:**	**30 g**	**Final Volume:**	**.5 mL**

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated Concentration	Units	Fit	Qual
1000298–98–6	(1R,2R,8S,8Ar)–8–hydroxy–1–(2–hydroxyeth NJ	8.96	442	ug/kg	90	NJ
	Unknown	9.05	366	ug/kg		J
	Unknown	9.16	613	ug/kg		J
	Unknown	9.28	367	ug/kg		J
	Unknown	9.35	334	ug/kg		J
	Unknown	9.47	345	ug/kg		J
55044–36–5	1H–Indene, 5–butyl–6–hexyloctahydro–	9.63	324	ug/kg	90	NJ
1000188–72–8	2,2,6–Trimethyl–1–(2–methyl–cyclobut–2–e	9.8	410	ug/kg	86	NJ
	Unknown	9.96	341	ug/kg		J

Level IV

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number:	186133	Client:	SSFL001	Project:	SSFL00507
Lab Sample ID:	186133004	Date Collected:	05/15/2007 10:45	Matrix:	SOIL
		Date Received:	05/16/2007 09:30	% Moisture:	4.2
Client ID:	BLBS0055S02			Prep Basis:	Dry Weight
Batch ID:	634772	Method:	SW846 8270C	SOP Ref:	GL-OA-E-009
Run Date:	05/18/2007 15:55	Analyst:	CAK	Instrument:	MSD1.I
Data File:	s1e1821.d	Inj. Vol:	.5 uL	Dilution:	1
Prep Batch:	634771	Prep Method:	SW846 3550B	Prep SOP Ref:	GL-OA-E-010
Prep Date:	05/16/2007 20:52	Aliquot:	30 g	Final Volume:	.5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
62-75-9	N-Nitrosodimethylamine *N-Methyl-N-nitrosomethylamin*	U	17.4	ug/kg	3.48	17.4	330
108-95-2	Phenol	U	174	ug/kg	34.8	174	330
95-57-8	2-Chlorophenol	U	174	ug/kg	34.8	174	330
106-46-7	1,4-Dichlorobenzene	U	174	ug/kg	34.8	174	330
621-64-7	N-Nitrosodi-n-propylamine *N-Nitrosodipropylamine*	U	174	ug/kg	34.8	174	250
59-50-7	4-Chloro-3-methylphenol	U	174	ug/kg	17.4	174	330
83-32-9	Acenaphthene	U	17.4	ug/kg	5.81	17.4	330
121-14-2	2,4-Dinitrotoluene	U	174	ug/kg	17.4	174	330
100-02-7	4-Nitrophenol	U	174	ug/kg	34.8	174	830
87-86-5	Pentachlorophenol	U	174	ug/kg	34.8	174	830
129-00-0	Pyrene	J	15.3	ug/kg	5.46	17.4	330
62-53-3	Aniline	U	174	ug/kg	60.9	174	420
111-44-4	Bis(2-chloroethyl)ether *bis(2-Chloroethyl) ether*	U	174	ug/kg	34.8	174	330
541-73-1	1,3-Dichlorobenzene	U	174	ug/kg	34.8	174	330
100-51-6	Benzyl alcohol	U	174	ug/kg	52.2	174	330
95-50-1	1,2-Dichlorobenzene	U	174	ug/kg	34.8	174	330
108-60-1	Bis(2-chloroisopropyl)ether *bis(2-Chloroisopropyl)ether*	U	174	ug/kg	34.8	174	330
95-48-7	2-Methylphenol *o-Cresol*	U	174	ug/kg	34.8	174	330
65794-96-9	4-Methylphenol *m,p-Cresols*	U	174	ug/kg	69.6	174	330
67-72-1	Hexachloroethane	U	174	ug/kg	34.8	174	330
98-95-3	Nitrobenzene	U	174	ug/kg	34.8	174	330
78-59-1	Isophorone	U	174	ug/kg	34.8	174	330
88-75-5	2-Nitrophenol	U	174	ug/kg	17.4	174	330
105-67-9	2,4-Dimethylphenol	U	174	ug/kg	34.8	174	330
111-91-1	Bis(2-chloroethoxy)methane *bis(2-Chloroethoxy)methane*	U	174	ug/kg	34.8	174	330
65-85-0	Benzoic acid	U	348	ug/kg	87.0	348	830
91-20-3	Naphthalene	U	17.4	ug/kg	5.22	17.4	330
106-47-8	4-Chloroaniline	U	174	ug/kg	34.8	174	330
87-68-3	Hexachlorobutadiene	U	174	ug/kg	34.8	174	330
91-57-6	2-Methylnaphthalene	U	17.4	ug/kg	3.48	17.4	330
77-47-4	Hexachlorocyclopentadiene	U	174	ug/kg	34.8	174	830
88-06-2	2,4,6-Trichlorophenol	U	174	ug/kg	34.8	174	330

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level V

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	186133	**Client:**	SSFL001	**Project:**	SSFL00507
Lab Sample ID:	186133004	**Date Collected:**	05/15/2007 10:45	**Matrix:**	SOIL
		Date Received:	05/16/2007 09:30	**%Moisture:**	4.2
Client ID:	BLBS0055S02			**Prep Basis:**	Dry Weight
Batch ID:	634772	**Method:**	SW846 8270C	**SOP Ref:**	GL–OA–E–009
Run Date:	05/18/2007 15:55	**Analyst:**	CAK	**Instrument:**	MSD1.I
Data File:	s1e1821.d	**Inj. Vol:**	.5 uL	**Dilution:**	1
Prep Batch:	634771	**Prep Method:**	SW846 3550B	**Prep SOP Ref:**	GL–OA–E–010
Prep Date:	05/16/2007 20:52	**Aliquot:**	30 g	**Final Volume:**	.5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
95–95–4	2,4,5–Trichlorophenol	U	174	ug/kg	34.8	174	330
91–58–7	2–Chloronaphthalene	U	17.4	ug/kg	6.09	17.4	330
88–74–4	2–Nitroaniline *o–Nitroaniline*	U	174	ug/kg	34.8	174	330
99–09–2	3–Nitroaniline *m–Nitroaniline*	U	174	ug/kg	34.8	174	330
131–11–3	Dimethyl phthalate *Dimethylphthalate*	U	17.4	ug/kg	5.22	17.4	330
606–20–2	2,6–Dinitrotoluene	U	174	ug/kg	17.4	174	330
208–96–8	Acenaphthylene	U	17.4	ug/kg	5.22	17.4	330
51–28–5	2,4–Dinitrophenol	U	348	ug/kg	66.1	348	660
132–64–9	Dibenzofuran	U	174	ug/kg	34.8	174	330
84–66–2	Diethyl phthalate *Diethylphthalate*	U	17.4	ug/kg	5.22	17.4	330
86–73–7	Fluorene	U	17.4	ug/kg	5.22	17.4	330
7005–72–3	4–Chlorophenyl phenyl ether *4–Chlorophenylphenylether*	U	174	ug/kg	17.4	174	330
534–52–1	4,6–Dinitro–2–methylphenol *2–Methyl–4,6–dinitrophenol*	U	174	ug/kg	34.8	174	420
100–01–6	4–Nitroaniline *p–Nitroaniline*	U	174	ug/kg	34.8	174	830
122–39–4	Diphenylamine	U	174	ug/kg	34.8	174	330
122–66–7	1,2–Diphenylhydrazine/Azobenzen *1,2–Diphenylhydrazine*	U	174	ug/kg	34.8	174	330
101–55–3	4–Bromophenyl phenyl ether *4–Bromophenylphenylether*	U	174	ug/kg	17.4	174	330
118–74–1	Hexachlorobenzene	U	174	ug/kg	34.8	174	330
85–01–8	Phenanthrene	J	8.40	ug/kg	5.22	17.4	330
120–12–7	Anthracene	U	17.4	ug/kg	3.48	17.4	330
84–74–2	Di–n–butyl phthalate *Di–n–butylphthalate*	U	17.4	ug/kg	5.22	17.4	330
206–44–0	Fluoranthene	J	12.9	ug/kg	5.22	17.4	330
92–87–5	Benzidine	U	174	ug/kg	174	174	660
85–68–7	Butyl benzyl phthalate *Butylbenzylphthalate*	U	17.4	ug/kg	5.22	17.4	330
56–55–3	Benzo(a)anthracene	J	7.92	ug/kg	5.22	17.4	330
91–94–1	3,3'–Dichlorobenzidine	U	174	ug/kg	52.2	174	830
218–01–9	Chrysene	J	9.68	ug/kg	5.22	17.4	330
117–81–7	Bis(2–ethylhexyl)phthalate *bis(2–Ethylhexyl)phthalate*	U	17.4	ug/kg	3.48	17.4	330
117–84–0	Di–n–octyl phthalate *Di–n–octylphthalate*	U	17.4	ug/kg	5.22	17.4	330
205–99–2	Benzo(b)fluoranthene	U	17.4	ug/kg	5.22	17.4	330
207–08–9	Benzo(k)fluoranthene	U	17.4	ug/kg	5.22	17.4	330
50–32–8	Benzo(a)pyrene	U	17.4	ug/kg	5.22	17.4	330

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level IV

Semi–Volatile
Certificate of Analysis
Sample Summary

SDG Number:	186133	**Client:**	SSFL001	**Project:**	SSFL00507
Lab Sample ID:	186133004	**Date Collected:**	05/15/2007 10:45	**Matrix:**	SOIL
		Date Received:	05/16/2007 09:30	**%Moisture:**	4.2
Client ID:	BLBS0055S02			**Prep Basis:**	Dry Weight
Batch ID:	634772	**Method:**	SW846 8270C	**SOP Ref:**	GL–OA–E–009
Run Date:	05/18/2007 15:55	**Analyst:**	CAK	**Instrument:**	MSD1.I
Data File:	s1e1821.d	**Inj. Vol:**	.5 uL	**Dilution:**	1
Prep Batch:	634771	**Prep Method:**	SW846 3550B	**Prep SOP Ref:**	GL–OA–E–010
Prep Date:	05/16/2007 20:52	**Aliquot:**	30 g	**Final Volume:**	.5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
193–39–5	Indeno(1,2,3–cd)pyrene	U	17.4	ug/kg	5.22	17.4	330
53–70–3	Dibenzo(a,h)anthracene	U	17.4	ug/kg	5.22	17.4	420
191–24–2	Benzo(ghi)perylene	U	17.4	ug/kg	5.22	17.4	330
87–65–0	2,6–Dichlorophenol	U	174	ug/kg	34.8	174	330
120–82–1	1,2,4–Trichlorobenzene	U	174	ug/kg	34.8	174	330

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery %	Acceptable Limits
2,4,6–Tribromophenol	1500	1740	ug/kg	86	(45%–97%)
2–Fluorophenol	1310	1740	ug/kg	75	(35%–98%)
Phenol–d5	1340	1740	ug/kg	77	(45%–95%)
2–Fluorobiphenyl	666	870	ug/kg	77	(45%–101%)
Nitrobenzene–d5	697	870	ug/kg	80	(45%–101%)
p–Terphenyl–d14	762	870	ug/kg	88	(41%–114%)

Comments:

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level IV

Semi–Volatile
Tentatively Identified Compound
Sample Summary

SDG Number:	186133	Date Collected:	05/15/2007 10:45	Matrix:	SOIL
Lab Sample ID:	186133004	Date Received:	05/16/2007 09:30	%Moisture:	4.2
		Client:	SSFL001	Project:	SSFL00507

Client ID:	BLBS0055S02	Method:	SW846 8270C	SOP Ref:	GL–OA–E–009
Batch ID:	634772	Inst:	MSD1.I	Dilution:	1
Run Date:	05/18/2007 15:55	Analyst:	CAK	Inj. Vol:	.5 uL
Prep Date:	05/16/2007 20:52	Aliquot:	30 g	Final Volume:	.5 mL

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated Concentration	Units	Fit	Qual
	Unknown Aldol Condensate R / *III	2.79	415	ug/kg		IA
	Unknown R ~~NJ~~ / B	3.22	108	ug/kg		J
79–34–5	Ethane, 1,1,2,2–tetrachloro– NJ	3.24	76.7	ug/kg	97	NJ
4291–79–6	Cyclohexane, 1–methyl–2–propyl–	3.39	89.5	ug/kg	87	NJ
54482–31–4	D–Homoandrostane, (5.alpha.,13.alpha.)–	8.89	70	ug/kg	95	NJ
	Unknown	9.15	112	ug/kg		J
	Unknown	9.3	75.5	ug/kg		J

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Level V

Flame Ionization Detector
Certificate of Analysis
Sample Summary

SDG Number:	186133	Client:	SSFL001	Project:	SSFL00507
Lab Sample ID:	186133001	Date Collected:	05/15/2007 09:40	Matrix:	SOIL
		Date Received:	05/16/2007 09:30	%Moisture:	3.4
Client ID:	BLBS0030AS01			Prep Basis:	Dry Weight
Batch ID:	635433	Method:	SW846 8015A/B SVOC	SOP Ref:	GL-OA-E-003
Run Date:	05/19/2007 01:54	Analyst:	JAOC	Instrument:	FID4A.I
Data File:	017b1701.d			Dilution:	10
Prep Batch:	635432	Prep Method:	SW846 3550B	Prep SOP Ref:	GL-OA-E-010
Prep Date:	05/18/2007 10:30	Aliquot:	30 g	Final Volume:	1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ
92-06-8	m-Terphenyl	U	1.73	mg/kg	1.73	1.73
84-15-1	o-Terphenyl	U	1.73	mg/kg	1.73	1.73
92-94-4	p-Terphenyl	U	1.73	mg/kg	1.73	1.73

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
5-alpha-Androstane	1.20	1.73	mg/kg	69	(50%-150%)

Comments:

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

level V

Flame Ionization Detector
Certificate of Analysis
Sample Summary

SDG Number:	186133	Client:	SSFL001	Project:	SSFL00507
Lab Sample ID:	186133002	Date Collected:	05/15/2007 09:50	Matrix:	SOIL
		Date Received:	05/16/2007 09:30	%Moisture:	6.5
Client ID:	BLBS0030AS02			Prep Basis:	Dry Weight
Batch ID:	635433	Method:	SW846 8015A/B SVOC	SOP Ref:	GL-OA-E-003
Run Date:	05/19/2007 03:47	Analyst:	JAOC	Instrument:	FID4A.I
Data File:	020b2001.d			Dilution:	10
Prep Batch:	635432	Prep Method:	SW846 3550B	Prep SOP Ref:	GL-OA-E-010
Prep Date:	05/18/2007 10:30	Aliquot:	30 g	Final Volume:	1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ
92-06-8	m-Terphenyl	U	1.78	mg/kg	1.78	1.78
84-15-1	o-Terphenyl	U	1.78	mg/kg	1.78	1.78
92-94-4	p-Terphenyl	U	1.78	mg/kg	1.78	1.78

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
5-alpha-Androstane	1.39	1.78	mg/kg	78	(50%-150%)

Comments:

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level V

Flame Ionization Detector
Certificate of Analysis
Sample Summary

SDG Number:	186133	Client:	SSFL001	Project:	SSFL00507
Lab Sample ID:	186133003	Date Collected:	05/15/2007 10:30	Matrix:	SOIL
		Date Received:	05/16/2007 09:30	%Moisture:	3.1
Client ID:	BLBS0055S01			Prep Basis:	Dry Weight
Batch ID:	635433	Method:	SW846 8015A/B SVOC	SOP Ref:	GL-OA-E-003
Run Date:	05/19/2007 00:39	Analyst:	JAOC	Instrument:	FID4A.I
Data File:	015b1501.d			Dilution:	1
Prep Batch:	635432	Prep Method:	SW846 3550B	Prep SOP Ref:	GL-OA-E-010
Prep Date:	05/18/2007 10:30	Aliquot:	30 g	Final Volume:	1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ
92-06-8	m-Terphenyl	U	0.172	mg/kg	0.172	0.172
84-15-1	o-Terphenyl	U	0.172	mg/kg	0.172	0.172
92-94-4	p-Terphenyl	U	0.172	mg/kg	0.172	0.172

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
5-alpha-Androstane	1.21	1.72	mg/kg	70	(50%-150%)

Comments:

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level I

Flame Ionization Detector
Certificate of Analysis
Sample Summary

SDG Number:	186133	Client:	SSFL001	Project:	SSFL00507
Lab Sample ID:	186133004	Date Collected:	05/15/2007 10:45	Matrix:	SOIL
		Date Received:	05/16/2007 09:30	%Moisture:	4.2
Client ID:	BLBS0055S02			Prep Basis:	Dry Weight
Batch ID:	635433	Method:	SW846 8015A/B SVOC	SOP Ref:	GL-OA-E-003
Run Date:	05/19/2007 01:16	Analyst:	JAOC	Instrument:	FID4A.I
Data File:	016b1601.d			Dilution:	1
Prep Batch:	635432	Prep Method:	SW846 3550B	Prep SOP Ref:	GL-OA-E-010
Prep Date:	05/18/2007 10:30	Aliquot:	30 g	Final Volume:	1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ
92-06-8	m-Terphenyl u	U	0.174	mg/kg	0.174	0.174
84-15-1	o-Terphenyl	U	0.174	mg/kg	0.174	0.174
92-94-4	p-Terphenyl	U	0.174	mg/kg	0.174	0.174

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
5-alpha-Androstane	1.27	1.74	mg/kg	73	(50%-150%)

Comments:

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Level II

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: May 22, 2007

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

Client Sample ID:	BLBS0030AS01	Project:	SSFL00507
Sample ID:	186133001	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	15-MAY-07 09:40		
Receive Date:	16-MAY-07		
Collector:	Client		
Moisture:	3.45%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA300.0 Fluoride in Soil										
Fluoride J/Q,E	J	2.12	0.309	5.00	mg/kg	1	RXM1 05/18/07	1958	634996	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	RXM1	05/17/07	1050	634995

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 300.0	

LEVEL V

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: May 22, 2007

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

Client Sample ID:	BLBS0030AS02	Project:	SSFL00507
Sample ID:	186133002	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	15-MAY-07 09:50		
Receive Date:	16-MAY-07		
Collector:	Client		
Moisture:	6.52%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA300.0 Fluoride in Soil										
Fluoride J/Q,E	J	2.04	0.319	5.00	mg/kg	1	RXM1 05/18/07	2018	634996	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	RXM1	05/17/07	1050	634995

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 300.0	

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Certificate of Analysis

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

Report Date: May 22, 2007

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

Client Sample ID:	BLBS0055S01	Project:	SSFL00507
Sample ID:	186133003	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	15-MAY-07 10:30		
Receive Date:	16-MAY-07		
Collector:	Client		
Moisture:	3.12%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA300.0 Fluoride in Soil										
Fluoride J/Q,E	J	1.31	0.307	5.00	mg/kg	1	RXM1 05/18/07	2039	634996	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	RXM1	05/17/07	1050	634995

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 300.0	

LEVEL V

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: May 22, 2007

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

Client Sample ID:	BLBS0055S02	Project:	SSFL00507
Sample ID:	186133004	Client ID:	SSFL001
Matrix:	SOIL		
Collect Date:	15-MAY-07 10:45		
Receive Date:	16-MAY-07		
Collector:	Client		
Moisture:	4.19%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography										
EPA300.0 Fluoride in Soil										
Fluoride J/Q,E	J	1.28	0.311	5.00	mg/kg	1	RXM1 05/18/07	2241	634996	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	RXM1	05/17/07	1050	634995

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 300.0	

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: 183627

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08
Sample Delivery Group:	183627
Project Manager:	Dixie Hambrick
Matrix:	Soil
QC Level:	V
No. of Samples:	19
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample name	Matrix Type	Collection Date	Method
BHBS0007D01	183627001	G341-280-1	soil	4/2/07	1613
BHBS0007S01	183627002	G341-280-2	soil	4/2/07	1613
BHBS0008S01	183627003	G341-280-3	soil	4/2/07	1613
BHBS0006S01	183627004	G341-280-4	soil	4/2/07	1613
BLBS0040S01	183627005	na	soil	4/2/07	6010B, 9045C
BLBS0048S01	183627006	na	soil	4/2/07	6010B, 9045C
BLBS0047S01	183627007	na	soil	4/2/07	6010B, 9045C
BLBS0041S01	183627008	na	soil	4/2/07	6010B, 9045C
BLBS0039S01	183627009	na	soil	4/2/07	6010B, 9045C
FSBS0079S01	183627010	G341-280-5	soil	4/2/07	1613
FSBS0081S01	183627012	na	soil	4/2/07	6010B, 9045C
FSBS0080S01	183627013	na	soil	4/2/07	6010B, 9045C
FSBS0072D01	183627014	na	soil	4/2/07	6010B, 9045C
FSBS0072S01	183627015	na	soil	4/2/07	6010B, 9045C
FSQW0003F01	183629001	G341-280-7	water	4/2/07	1613, 6010B, 6020, 314.0
FSQW0003E01	183629002	G341-280-8	water	4/2/07	1613, 6010B, 6020, 314.0
FSBS0021AS01	183629003	na	soil	4/2/07	314.0
FSBS0026AD01	183629004	na	soil	4/2/07	314.0
FSBS0026AS01	183629005	na	soil	4/2/07	314.0

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at both laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. According to the COC and case narrative for this SDG, the dioxin analysis for sample FSBS0079S02 was on HOLD and was not included in this report. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered directly from the field to the laboratory, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight
Date Reviewed: April 24, 2007

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

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

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

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

- Blanks: There were several detects above the EDL in the associated method blanks. Any detects reported at less than five times the concentrations reported in the method blank were qualified as estimated nondetects, "UJ," at the levels of contamination in the samples of this SDG. As a portion of the results for total TCDFs and total PeCDF in all samples and total HpCDF in sample FSBS0079S01 included method blank contamination, these detects were qualified as estimated, "J."

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

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

    - Field Blanks and Equipment Rinsates: Sample FSQW0003F01 was the field blank and sample FSQW0003E01 was the equipment rinsate identified for this SDG. Total TCDFs was reported in both the field blank and the equipment rinsate and 1,2,3,4,7,8-HxCDF and 1,2,3,6,7,8-HxCDF were reported in the equipment rinsate only. Any detects reported at less than five times the concentrations reported in the field QC samples were qualified as estimated "J," in the site samples of this SDG.

    - Field Duplicates: Samples BHBS0007D01 and BHBS0007S01 were the field duplicate pair identified for this SDG. There were 13 common detects and all RPDs exceeded 100%.

- Internal Standards Performance: Internal standard recoveries are not routinely evaluated at a Level V validation; however, the recoveries were reported on the sample result

summaries. The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.

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

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. The laboratory calculated and reported compound-specific detection limits. OCDD was reported at a concentration above the upper calibration level in sample BHBS0007D01; therefore, this detect for OCDD was qualified as estimated, "J." Quantitative interference was present in the results for total PeCDDs and total PeCDFs in several of the samples in this SDG. These results were denoted with a "Q," by the laboratory. The results for total PeCDDs and total PeCDFs were qualified as estimated, "J," for detects and "UJ," for nondetects in the samples of this SDG. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Nondetects are valid to the estimated detection limit (EDL).

B. EPA METHOD 6010B—Metals

Reviewed By: P. Meeks
Date Reviewed: April 24, 2007

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

- Holding Times: The analytical holding time, six months for ICP, was met.

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

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

- Blanks: Method blanks and CCBs had no detects.

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

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed.

- Serial Dilution: No serial dilution analyses were performed.

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

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

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

    - Field Blanks and Equipment Rinsates: Aluminum was not detected in field blank FSQW0003F01. Sodium was detected in the field blank but not at sufficient concentration to qualify the site samples. The samples in this SDG had no identified equipment rinsate sample.

    - Field Duplicates: BLBS0072S01 and BLBS0072D01 were identified as field duplicate samples. Both detects were in common and both RPDs were ≤100%.

C. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: April 24, 2007

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

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

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

- Blanks: Method blanks and CCBs had no detects.

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

- Laboratory Duplicates: Laboratory duplicate analyses were performed for FSBS0026AD01 and the RPD was within the method-established control limits of ≤15%. Laboratory duplicate analyses were also performed on FSBS0003F01; however, as the sample was identified as a field QC sample, the result was not assessed.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed.

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

A confirmation spike was performed for FSBS0026AD01. The recovery was within the method-established control limits of 80-120%. A confirmation spike was also performed for FSBS0003F01; however, as the sample was identified as a field QC sample, the result was not assessed.

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

    - Field Blanks and Equipment Rinsates: Perchlorate was not detected in field blank FSBS0003F01 or equipment rinsate FSBS0003E01.

    - Field Duplicates: Samples FSBS0026AS01 and FSBS0026AD01 were identified as field duplicates. Perchlorate was not detected in either sample.

D. EPA METHOD 9045C—General Minerals

Reviewed By: P. Meeks
Date Reviewed: April 24, 2007

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

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

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

- Blanks: Not applicable to this analysis.

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

- Laboratory Duplicates: Laboratory duplicate analyses were performed on BLBS0040S01 and the RPD was within the laboratory-established control limit of ≤5%.

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

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

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based

on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: Not applicable to this analysis.
- Field Duplicates: Samples BLBS0072S01 and BLBS0072D01 were identified as field duplicate samples. The RPD was ≤100%.

Method 1613--Boeing
183627001 BHBS0007D01 * NS
General Engineering Labs

Analytical Data Summary Sheet

	Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
U	2,3,7,8-TCDD	ND	0.152	0.844			
UJ	1,2,3,7,8-PeCDD	1.48	0.149	4.22	33:53	1.4	A
	1,2,3,4,7,8-HxCDD	3.23	0.170	4.22	36:25	1.22	A
	1,2,3,6,7,8-HxCDD	19.3	0.171	4.22	36:31	1.25	
	1,2,3,7,8,9-HxCDD	11.9	0.170	4.22	36:45	1.22	
	1,2,3,4,6,7,8-HpCDD	1010	0.420	4.22	39:44	1.04	
J/*III	OCDD	5810	0.221	8.44	43:52	0.89	E
UJ/B	2,3,7,8-TCDF	0.772	0.149	0.844	30:05	0.74	A
	1,2,3,7,8-PeCDF	0.201	0.0795	4.22	33:06	1.53	A
	2,3,4,7,8-PeCDF	0.481	0.0839	4.22	33:42	1.59	A
J/F	1,2,3,4,7,8-HxCDF	0.402	0.155	4.22	35:44	1.24	A
/F	1,2,3,6,7,8-HxCDF	0.296	0.145	4.22	35:49	1.18	A
	2,3,4,6,7,8-HxCDF	0.463	0.157	4.22	36:18	1.30	A
U	1,2,3,7,8,9-HxCDF	ND	0.205	4.22			
	1,2,3,4,6,7,8-HpCDF	6.12	0.135	4.22	38:31	1.07	
J	1,2,3,4,7,8,9-HpCDF	0.475	0.185	4.22	40:22	1.19	A
	OCDF	13.6	0.200	8.44	44:08	0.9	
	Total TCDDs	1.40	0.152	0.844			
J/*III	Total PeCDDs	12.0	0.149	4.22			Q
	Total HxCDDs	164	0.170	4.22			
	Total HpCDDs	1660	0.420	4.22			
J/B	Total TCDFs	2.75	0.149	0.844			
J/B,*III	Total PeCDFs	5.58	0.0816	4.22			Q
	Total HxCDFs	10.1	0.163	4.22			
	Total HpCDFs	24.9	0.158	4.22			
	WHO-2005 TEQ (ND=0)	17.2					
	WHO-2005 TEQ (ND=½)	17.4					

Client Information			**Sample Information**		
Project Name:	1891264		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	183627001		Weight / Volume:	13.04	Grams
			Solids / Lipids:	90.8	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14197	
Project ID:	G341-280				
Sample ID:	G341-280-1B		Filename:	a14apr07a-5	
Collection Date/Time:	02-Apr-07	09:40	Retchk:	a14apr07a-1	
Receipt Date:	04-Apr-07	10:15	Begin ConCal:	a14apr07a-1	
Extraction Date:	09-Apr-07				
Analysis Date:	14-Apr-07	15:13	Initial Cal:	m1613-071006e	

Level V

Method 1613--Boeing
183627002 BHBS007501
General Engineering Labs

Analytical Data Summary Sheet

	Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
U	2,3,7,8-TCDD	ND	0.165	0.813			
J	1,2,3,7,8-PeCDD	0.194	0.142	4.07	33:53	1.68	A
U	1,2,3,4,7,8-HxCDD	ND	0.240	4.07			
J	1,2,3,6,7,8-HxCDD	2.70	0.235	4.07	36:31	1.24	A
J	1,2,3,7,8,9-HxCDD	1.35	0.236	4.07	36:45	1.36	A
	1,2,3,4,6,7,8-HpCDD	206	0.315	4.07	39:44	1.03	
	OCDD	1380	0.346	8.13	43:51	0.89	
UJ/B	2,3,7,8-TCDF	0.608	0.149	0.813	30:05	0.73	A
	1,2,3,7,8-PeCDF	0.156	0.0917	4.07	33:06	1.46	A
	2,3,4,7,8-PeCDF	0.158	0.0852	4.07	33:42	1.75	A
U	1,2,3,4,7,8-HxCDF	ND	0.111	4.07			
	1,2,3,6,7,8-HxCDF	ND	0.104	4.07			
	2,3,4,6,7,8-HxCDF	ND	0.118	4.07			
	1,2,3,7,8,9-HxCDF	ND	0.151	4.07			
J	1,2,3,4,6,7,8-HpCDF	1.11	0.159	4.07	38:31	0.91	A
U	1,2,3,4,7,8,9-HpCDF	ND	0.229	4.07			
UJ/B	OCDF	4.16	0.261	8.13	44:08	0.88	A
U	Total TCDDs	ND	0.165	0.813			
J/*III	Total PeCDDs	0.826	0.155	4.07			AQ
	Total HxCDDs	18.2	0.237	4.07			
	Total HpCDDs	317	0.315	4.07			
J/B	Total TCDFs	1.03	0.149	0.813			
J/B *III	Total PeCDFs	0.888	0.0885	4.07			AQ
J	Total HxCDFs	1.01	0.119	4.07			A
	Total HpCDFs	4.28	0.190	4.07			
	WHO-2005 TEQ (ND=0)	3.20					
	WHO-2005 TEQ (ND=½)	3.44					

Client Information			**Sample Information**		
Project Name:	1891264		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	183627002		Weight / Volume:	13.45	Grams
			Solids / Lipids:	91.4	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14197	
Project ID:	G341-280				
Sample ID:	G341-280-2B		Filename:	a14apr07a-6	
Collection Date/Time:	02-Apr-07	09:40	Retchk:	a14apr07a-1	
Receipt Date:	04-Apr-07	10:15	Begin ConCal:	a14apr07a-1	
Extraction Date:	09-Apr-07				
Analysis Date:	14-Apr-07	16:01	Initial Cal:	m1613-071006e	

Level II

Method 1613--Boeing
183627003 BHBS 0008501
General Engineering Labs

Analytical Data Summary Sheet

	Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
U	2,3,7,8-TCDD	ND	0.179	0.823			
↓	1,2,3,7,8-PeCDD	ND	0.118	4.11			
	1,2,3,4,7,8-HxCDD	ND	0.139	4.11			
J	1,2,3,6,7,8-HxCDD	0.520	0.141	4.11	36:30	1.35	A
J	1,2,3,7,8,9-HxCDD	0.630	0.139	4.11	36:45	1.33	A
	1,2,3,4,6,7,8-HpCDD	5.84	0.251	4.11	39:44	1.03	
	OCDD	38.6	0.348	8.23	43:51	0.90	
UJ/B	2,3,7,8-TCDF	0.676	0.169	0.823	30:05	0.77	A
	1,2,3,7,8-PeCDF	0.216	0.0749	4.11	33:06	1.48	A
↓	2,3,4,7,8-PeCDF	0.181	0.0757	4.11	33:42	1.47	A
U	1,2,3,4,7,8-HxCDF	ND	0.0963	4.11			
↓	1,2,3,6,7,8-HxCDF	ND	0.0938	4.11			
	2,3,4,6,7,8-HxCDF	ND	0.100	4.11			
J	1,2,3,7,8,9-HxCDF	0.571	0.136	4.11	37:03	1.23	A
UJ/B	1,2,3,4,6,7,8-HpCDF	0.670	0.149	4.11	38:31	1.03	A
U	1,2,3,4,7,8,9-HpCDF	ND	0.213	4.11			
UJ/B	OCDF	2.16	0.301	8.23	44:08	0.96	A
U	Total TCDDs	ND	0.179	0.823			
J/*III	Total PeCDDs	0.379	0.118	4.11			AQ
J	Total HxCDDs	3.04	0.140	4.11			A
	Total HpCDDs	12.3	0.251	4.11			
J/B	Total TCDFs	1.41	0.169	0.823			
J/B*III	Total PeCDFs	1.29	0.0752	4.11			AQ
J	Total HxCDFs	1.09	0.105	4.11			A
J	Total HpCDFs	1.66	0.178	4.11			A
	WHO-2005 TEQ (ND=0)	0.378					
	WHO-2005 TEQ (ND=½)	0.720					

Client Information			**Sample Information**		
Project Name:	1891264		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	183627003		Weight / Volume:	13.40	Grams
			Solids / Lipids:	90.7	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14197	
Project ID:	G341-280				
Sample ID:	G341-280-3B		Filename:	a14apr07a-7	
Collection Date/Time:	02-Apr-07	10:10	Retchk:	a14apr07a-1	
Receipt Date:	04-Apr-07	10:15	Begin ConCal:	a14apr07a-1	
Extraction Date:	09-Apr-07				
Analysis Date:	14-Apr-07	16:48	Initial Cal:	m1613-071006e	

Level V

Method 1613--Boeing
183627004 BHB5000650 1
General Engineering Labs

Analytical Data Summary Sheet

	Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
U	2,3,7,8-TCDD	ND	0.155	0.806			
↓	1,2,3,7,8-PeCDD	ND	0.138	4.03			
	1,2,3,4,7,8-HxCDD	ND	0.175	4.03			
J	1,2,3,6,7,8-HxCDD	0.499	0.173	4.03	36:30	1.22	A
J	1,2,3,7,8,9-HxCDD	0.594	0.173	4.03	36:45	1.38	A
UJ|B	1,2,3,4,6,7,8-HpCDD	1.98	0.238	4.03	39:44	1.14	A
	OCDD	19.8	0.365	8.06	43:51	0.90	
UJ|B	2,3,7,8-TCDF	0.686	0.153	0.806	30:05	0.86	A
U	1,2,3,7,8-PeCDF	ND	0.0857	4.03			
UJ|B	2,3,4,7,8-PeCDF	0.293	0.0807	4.03	33:42	1.76	A
U	1,2,3,4,7,8-HxCDF	ND	0.114	4.03			
J|F	1,2,3,6,7,8-HxCDF	0.134	0.110	4.03	35:49	1.08	A
U	2,3,4,6,7,8-HxCDF	ND	0.114	4.03			
U	1,2,3,7,8,9-HxCDF	ND	0.156	4.03			
UJ|B	1,2,3,4,6,7,8-HpCDF	0.487	0.119	4.03	38:31	0.90	A
U	1,2,3,4,7,8,9-HpCDF	ND	0.175	4.03			
UJ|B	OCDF	1.67	0.288	8.06	44:08	0.89	A
U	Total TCDDs	ND	0.155	0.806			
UJ/*III	Total PeCDDs	ND	0.138	4.03			Q
J	Total HxCDDs	1.71	0.174	4.03			A
J|B	Total HpCDDs	4.25	0.238	4.03			
J|B	Total TCDFs	2.15	0.153	0.806			
J|B*III	Total PeCDFs	1.63	0.0831	4.03			AQ
J	Total HxCDFs	0.889	0.122	4.03			A
J	Total HpCDFs	1.27	0.144	4.03			A
	WHO-2005 TEQ (ND=0)	0.310					
	WHO-2005 TEQ (ND=½)	0.663					

Client Information			**Sample Information**		
Project Name:	1891264		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	183627004		Weight / Volume:	13.25	Grams
			Solids / Lipids:	93.7	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14197	
Project ID:	G341-280				
Sample ID:	G341-280-4B		Filename:	a14apr07a-8	
Collection Date/Time:	02-Apr-07	11:00	Retchk:	a14apr07a-1	
Receipt Date:	04-Apr-07	10:15	Begin ConCal:	a14apr07a-1	
Extraction Date:	09-Apr-07				
Analysis Date:	14-Apr-07	17:36	Initial Cal:	m1613-071006e	

Level II

Method 1613--Boeing
183627010 FSBS0079S01
General Engineering Labs

Analytical Data Summary Sheet

	Analyte	Amount (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
U	2,3,7,8-TCDD	ND	0.215	0.841			
	1,2,3,7,8-PeCDD	ND	0.159	4.21			
	1,2,3,4,7,8-HxCDD	ND	0.199	4.21			
UJ	1,2,3,6,7,8-HxCDD	0.262	0.199	4.21	36:30	1.23	A
J	1,2,3,7,8,9-HxCDD	0.372	0.198	4.21	36:45	1.20	A
UJ/B	1,2,3,4,6,7,8-HpCDD	2.13	0.308	4.21	39:44	1.05	A
	OCDD	28.1	0.429	8.41	43:51	0.89	
UJ/B	2,3,7,8-TCDF	0.675	0.201	0.841	30:05	0.88	A
	1,2,3,7,8-PeCDF	0.200	0.102	4.21	33:05	1.36	A
	2,3,4,7,8-PeCDF	0.170	0.111	4.21	33:42	1.67	A
U	1,2,3,4,7,8-HxCDF	ND	0.132	4.21			
U	1,2,3,6,7,8-HxCDF	ND	0.126	4.21			
U	2,3,4,6,7,8-HxCDF	ND	0.129	4.21			
J	1,2,3,7,8,9-HxCDF	0.286	0.180	4.21	37:03	1.26	A
UJ/B	1,2,3,4,6,7,8-HpCDF	0.419	0.163	4.21	38:31	1.17	A
U	1,2,3,4,7,8,9-HpCDF	ND	0.235	4.21			
UJ/B	OCDF	1.74	0.388	8.41	44:08	0.98	A
U	Total TCDDs	ND	0.215	0.841			
UJ/III	Total PeCDDs	ND	0.159	4.21			Q
J	Total HxCDDs	0.634	0.199	4.21			A
J/B	Total HpCDDs	4.30	0.308	4.21			
J/B, K	Total TCDFs	1.50	0.201	0.841			
J/B, *III	Total PeCDFs	0.370	0.107	4.21			AQ
J	Total HxCDFs	0.587	0.140	4.21			A
J/B	Total HpCDFs	1.42	0.195	4.21			A
	WHO-2005 TEQ (ND=0)	0.251					
	WHO-2005 TEQ (ND=½)	0.686					

Client Information			**Sample Information**		
Project Name:	1891264		Report Basis:	Dry Weight	
			Matrix:	Soil	
Sample ID:	183627010		Weight / Volume:	13.05	Grams
			Solids / Lipids:	91.1	%
			Original pH :	NA	
Laboratory Information			Batch ID:	WG14197	
Project ID:	G341-280				
Sample ID:	G341-280-5B		Filename:	a14apr07a-9	
Collection Date/Time:	02-Apr-07	10:18	Retchk:	a14apr07a-1	
Receipt Date:	04-Apr-07	10:15	Begin ConCal:	a14apr07a-1	
Extraction Date:	09-Apr-07				
Analysis Date:	14-Apr-07	18:24	Initial Cal:	m1613-071006e	

Level V

KS
4/24/07

Method 1613--Boeing
183629001 FSQW0003 F01
General Engineering Labs

Analytical Data Summary Sheet

	Analyte	Amount (ng/L)	EDL (ng/L)	Adj. RL (ng/L)	RT (min.)	Ratio	Qualifier
u	2,3,7,8-TCDD	ND	0.00386	0.00960			
	1,2,3,7,8-PeCDD	ND	0.00337	0.0480			
	1,2,3,4,7,8-HxCDD	ND	0.00556	0.0480			
	1,2,3,6,7,8-HxCDD	ND	0.00549	0.0480			
	1,2,3,7,8,9-HxCDD	ND	0.00544	0.0480			
	1,2,3,4,6,7,8-HpCDD	ND	0.0108	0.0480			
	OCDD	ND	0.0237	0.0960			
	2,3,7,8-TCDF	ND	0.00331	0.00960			
	1,2,3,7,8-PeCDF	ND	0.00226	0.0480			
	2,3,4,7,8-PeCDF	ND	0.00220	0.0480			
	1,2,3,4,7,8-HxCDF	ND	0.00323	0.0480			
	1,2,3,6,7,8-HxCDF	ND	0.00314	0.0480			
	2,3,4,6,7,8-HxCDF	ND	0.00336	0.0480			
	1,2,3,7,8,9-HxCDF	ND	0.00529	0.0480			
	1,2,3,4,6,7,8-HpCDF	ND	0.00495	0.0480			
	1,2,3,4,7,8,9-HpCDF	ND	0.00840	0.0480			
	OCDF	ND	0.0222	0.0960			
u	Total TCDDs	ND	0.00386	0.00960			
	Total PeCDDs	ND	0.00337	0.0480			
	Total HxCDDs	ND	0.00547	0.0480			
	Total HpCDDs	ND	0.0108	0.0480			
J	Total TCDFs	0.00397	0.00331	0.00960			A
u	Total PeCDFs	ND	0.00223	0.0480			
	Total HxCDFs	ND	0.00367	0.0480			
	Total HpCDFs	ND	0.00642	0.0480			
	WHO-2005 TEQ (ND=0)	0.000					
	WHO-2005 TEQ (ND=½)	0.0117					

Client Information

Project Name:	1891264		
Sample ID:	183629001		

Sample Information

Matrix:	Water	
Weight / Volume:	1042	mL
Solids / Lipids:	NA	%
Original pH :	5	
Batch ID:	WG14192	

Laboratory Information

Project ID:	G341-280			
Sample ID:	G341-280-7C		Filename:	a06apr07a_2-8
Collection Date/Time:	02-Apr-07	15:02	Retchk:	a06apr07a-15
Receipt Date:	04-Apr-07	10:15	Begin ConCal:	a06apr07a-15
Extraction Date:	05-Apr-07			
Analysis Date:	7-Apr-07	6:56	Initial Cal:	m1613-071006e

Level V

Method 1613--Boeing
183629002 FSQW0003E01
General Engineering Labs

Analytical Data Summary Sheet

	Analyte	Amount (ng/L)	EDL (ng/L)	Adj. RL (ng/L)	RT (min.)	Ratio	Qualifier
u	2,3,7,8-TCDD	ND	0.00415	0.00956			
	1,2,3,7,8-PeCDD	ND	0.00351	0.0478			
	1,2,3,4,7,8-HxCDD	ND	0.00567	0.0478			
	1,2,3,6,7,8-HxCDD	ND	0.00584	0.0478			
	1,2,3,7,8,9-HxCDD	ND	0.00568	0.0478			
	1,2,3,4,6,7,8-HpCDD	ND	0.0105	0.0478			
	OCDD	ND	0.0269	0.0956			
UJ/B	2,3,7,8-TCDF	0.00616	0.00375	0.00956	30:35	0.78	A
	1,2,3,7,8-PeCDF	0.00436	0.00249	0.0478	33:19	1.32	A
	2,3,4,7,8-PeCDF	0.00380	0.00237	0.0478	33:56	1.36	A
UJ	1,2,3,4,7,8-HxCDF	0.00340	0.00319	0.0478	36:01	1.34	A
	1,2,3,6,7,8-HxCDF	0.00312	0.00298	0.0478	36:06	1.22	A
u	2,3,4,6,7,8-HxCDF	ND	0.00309	0.0478			
	1,2,3,7,8,9-HxCDF	ND	0.00511	0.0478			
	1,2,3,4,6,7,8-HpCDF	ND	0.00548	0.0478			
	1,2,3,4,7,8,9-HpCDF	ND	0.00962	0.0478			
	OCDF	ND	0.0236	0.0956			
	Total TCDDs	ND	0.00415	0.00956			
	Total PeCDDs	ND	0.00351	0.0478			
	Total HxCDDs	ND	0.00571	0.0478			
	Total HpCDDs	ND	0.0105	0.0478			
	Total TCDFs	0.0112	0.00375	0.00956			
UJ/B	Total PeCDFs	0.00816	0.00243	0.0478			A
u	Total HxCDFs	ND	0.00350	0.0478			
u	Total HpCDFs	ND	0.00724	0.0478			
	WHO-2005 TEQ (ND=0)	0.00254					
	WHO-2005 TEQ (ND=½)	0.0130					

Client Information			**Sample Information**		
Project Name:	1891264				
			Matrix:	Water	
Sample ID:	183629002		Weight / Volume:	1046	mL
			Solids / Lipids:	NA	%
			Original pH :	5	
Laboratory Information			Batch ID:	WG14192	
Project ID:	G341-280				
Sample ID:	G341-280-8B		Filename:	a06apr07a_2-9	
Collection Date/Time:	02-Apr-07	15:09	Retchk:	a06apr07a-15	
Receipt Date:	04-Apr-07	10:15	Begin ConCal:	a06apr07a-15	
Extraction Date:	05-Apr-07				
Analysis Date:	7-Apr-07	7:43	Initial Cal:	m1613-071006e	

Level V

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627S **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183627005 **BASIS:** Dry Weight **DATE COLLECTED** 02-APR-07

CLIENT ID: BLBS0040S01 **LEVEL:** Low **DATE RECEIVED** 04-APR-07

MATRIX: SOIL **%SOLIDS:** 94.6

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-23-5	Sodium	73.8	mg/kg		4.54	15.1	50	1	P	HSC	04/10/07 09:34	041007A-1	622907

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622907	622905	SW846 3050B	0.524	g	50	mL	04/06/07	KXW1

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627S **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183627006 **BASIS:** Dry Weight **DATE COLLECTED** 02–APR–07

CLIENT ID: BLBS0048S01 **LEVEL:** Low **DATE RECEIVED** 04–APR–07

MATRIX: SOIL **%SOLIDS:** 96.4

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440–23–5	Sodium	91.4	mg/kg		4.59	15.3	50	1	P	HSC	04/10/07 09:56	041007A–1	622907

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622907	622905	SW846 3050B	0.509	g	50	mL	04/06/07	KXW1

LEVEL V

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627S **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183627007 **BASIS:** Dry Weight **DATE COLLECTED** 02-APR-07

CLIENT ID: BLBS0047S01 **LEVEL:** Low **DATE RECEIVED** 04-APR-07

MATRIX: SOIL **%SOLIDS:** 93.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-23-5	Sodium	123	mg/kg		4.7	15.7	50	1	P	HSC	04/10/07 10:03	041007A-1	622907

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622907	622905	SW846 3050B	0.513	g	50	mL	04/06/07	KXW1

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627S **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183627008 **BASIS:** Dry Weight **DATE COLLECTED** 02–APR–07

CLIENT ID: BLBS0041S01 **LEVEL:** Low **DATE RECEIVED** 04–APR–07

MATRIX: SOIL **%SOLIDS:** 91.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440–23–5	Sodium	93	mg/kg		4.93	16.4	50	1	P	HSC	04/10/07 10:10	041007A–1	622907

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622907	622905	SW846 3050B	0.5	g	50	mL	04/06/07	KXW1

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627S **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183627009 **BASIS:** Dry Weight **DATE COLLECTED** 02–APR–07

CLIENT ID: BLBS0039S01 **LEVEL:** Low **DATE RECEIVED** 04–APR–07

MATRIX: SOIL **%SOLIDS:** 96.5

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440–23–5	Sodium	84.9	mg/kg		4.6	15.3	50	1	P	HSC	04/10/07 10:17	041007A–1	622907

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622907	622905	SW846 3050B	0.507	g	50	mL	04/06/07	KXW1

LEVEL V

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627S **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183627012 **BASIS:** Dry Weight **DATE COLLECTED** 02-APR-07

CLIENT ID: FSBS0081S01 **LEVEL:** Low **DATE RECEIVED** 04-APR-07

MATRIX: SOIL **%SOLIDS:** 91.7

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-23-5	Sodium	191	mg/kg		4.85	16.2	50	1	P	HSC	04/10/07 10:24	041007A-1	622907

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622907	622905	SW846 3050B	0.506	g	50	mL	04/06/07	KXW1

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627S **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183627013 **BASIS:** Dry Weight **DATE COLLECTED** 02–APR–07

CLIENT ID: FSBS0080S01 **LEVEL:** Low **DATE RECEIVED** 04–APR–07

MATRIX: SOIL **%SOLIDS:** 84

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440–23–5	Sodium	99.3	mg/kg		5.25	17.5	50	1	P	HSC	04/10/07 10:31	041007A–1	622907

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622907	622905	SW846 3050B	0.513	g	50	mL	04/06/07	KXW1

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627S **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183627014 **BASIS:** Dry Weight **DATE COLLECTED** 02–APR–07

CLIENT ID: FSBS0072D01 **LEVEL:** Low **DATE RECEIVED** 04–APR–07

MATRIX: SOIL **%SOLIDS:** 92.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429–90–5	Aluminum	23400	mg/kg		7.03	20.7	20	1	P	HSC	04/10/07 10:38	041007A–1	622907
7440–23–5	Sodium	138	mg/kg		4.65	15.5	50	1	P	HSC	04/10/07 10:38	041007A–1	622907

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622907	622905	SW846 3050B	0.525	g	50	mL	04/06/07	KXW1

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627S **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183627015 **BASIS:** Dry Weight **DATE COLLECTED** 02–APR–07

CLIENT ID: FSBS0072S01 **LEVEL:** Low **DATE RECEIVED** 04–APR–07

MATRIX: SOIL **%SOLIDS:** 90

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429–90–5	Aluminum	26900	mg/kg		7.4	21.8	20	1	P	HSC	04/10/07 10:45	041007A–1	622907
7440–23–5	Sodium	319	mg/kg		4.9	16.3	50	1	P	HSC	04/10/07 10:45	041007A–1	622907

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622907	622905	SW846 3050B	0.512	g	50	mL	04/06/07	KXW1

LEVEL V

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627W **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183629001 **BASIS:** As Received **DATE COLLECTED** 02-APR-07

CLIENT ID: FSQW0003F01 **LEVEL:** Low **DATE RECEIVED** 04-APR-07

MATRIX: WATER **%SOLIDS:**

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	0.068	mg/L	U	0.068	.2	0.05	1	P	HSC	04/10/07 00:46	040907-1	622897
7440-38-2	Arsenic	1.5	ug/L	U	1.5	5	1	1	MS	RMJ	04/06/07 04:54	070405-3	622885
7440-23-5	Sodium	0.048	mg/L	J	0.045	.15	0.5	1	P	HSC	04/10/07 19:22	041007-2	622897

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622885	622883	SW846 3005A	50	mL	50	mL	04/05/07	KXW1
622897	622895	SW846 3005A	50	mL	50	mL	04/06/07	KXW1

LEVEL V

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 183627W **CONTRACT:** SSFL00207 **METHOD TYPE:** SW846

SAMPLE ID: 183629002 **BASIS:** As Received **DATE COLLECTED** 02–APR–07

CLIENT ID: FSQW0003E01 **LEVEL:** Low **DATE RECEIVED** 04–APR–07

MATRIX: WATER **%SOLIDS:**

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429–90–5	Aluminum	0.068	mg/L	U	0.068	.2	0.05	1	P	HSC	04/10/07 00:52	040907–1	622897
7440–38–2	Arsenic	1.5	ug/L	U	1.5	5	1	1	MS	RMJ	04/06/07 04:59	070405–3	622885
7440–23–5	Sodium	0.045	mg/L	U	0.045	.15	0.5	1	P	HSC	04/10/07 19:28	041007–2	622897

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
622885	622883	SW846 3005A	50	mL	50	mL	04/05/07	KXW1
622897	622895	SW846 3005A	50	mL	50	mL	04/06/07	KXW1

LEVEL V

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

Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 13, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	FSQW0003F01	Project:	SSFL00207
Sample ID:	183629001	Client ID:	SSFL001
Matrix:	Water		
Collect Date:	02-APR-07 15:02		
Receive Date:	04-APR-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography Federal										
EPA 314.0 Perchlorate by IC										
Perchlorate	U	4.00	1.38	4.00	ug/L	1	MAR1 04/11/07	0015	623347	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

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Aurora, Colorado 80014

Report Date: April 13, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	FSQW0003E01	Project:	SSFL00207
Sample ID:	183629002	Client ID:	SSFL001
Matrix:	Water		
Collect Date:	02-APR-07 15:09		
Receive Date:	04-APR-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography Federal										
EPA 314.0 Perchlorate by IC										
Perchlorate	U	4.00	1.38	4.00	ug/L	1	MAR1 04/11/07	0217	623347	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

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Aurora, Colorado 80014

Report Date: April 13, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	FSBS0021AS01	Project:	SSFL00207
Sample ID:	183629003	Client ID:	SSFL001
Matrix:	LEACHATE		
Collect Date:	02-APR-07 14:03		
Receive Date:	04-APR-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography Federal										
EPA 314.0 Perchlorate by IC (W/Leaching Procedure)										
Perchlorate	U U	4.00	1.38	4.00	ug/L	1	MAR1 04/11/07	0549	623347	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

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Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 13, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	FSBS0026AD01	Project:	SSFL00207
Sample ID:	183629004	Client ID:	SSFL001
Matrix:	LEACHATE		
Collect Date:	02-APR-07 14:12		
Receive Date:	04-APR-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography Federal										
EPA 314.0 Perchlorate by IC (W/Leaching Procedure)										
Perchlorate	U	4.00	1.38	4.00	ug/L	1	MAR104/11/07	0247	623347	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

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Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 13, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	FSBS0026AS01	Project:	SSFL00207
Sample ID:	183629005	Client ID:	SSFL001
Matrix:	LEACHATE		
Collect Date:	02-APR-07 14:12		
Receive Date:	04-APR-07		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography Federal										
EPA 314.0 Perchlorate by IC (W/Leaching Procedure)										
Perchlorate	U	4.00	1.38	4.00	ug/L	1	MAR1 04/11/07	0448	623347	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

LEVEL V

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Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 11, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	BLBS0040S01	Project:	SSFL00207
Sample ID:	183627005	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	02-APR-07 12:35		
Receive Date:	04-APR-07		
Collector:	Client		
Moisture:	5.37%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis Federal										
SW9045C pH Federal										
pH at Temp 20.2C	H	7.55	0.010	0.100	SU	1	AXC2 04/06/07	1701	622832	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C	

LEVEL V

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Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 11, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	BLBS0048S01	Project:	SSFL00207
Sample ID:	183627006	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	02-APR-07 13:20		
Receive Date:	04-APR-07		
Collector:	Client		
Moisture:	3.65%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis Federal										
SW9045C pH Federal										
pH at Temp 20.3C	H	5.75	0.010	0.100	SU	1	AXC2 04/06/07	1706	622832	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C	

LEVEL V

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Certificate of Analysis

Company : MECX
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Aurora, Colorado 80014

Report Date: April 11, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	BLBS0047S01	Project:	SSFL00207
Sample ID:	183627007	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	02-APR-07 13:30		
Receive Date:	04-APR-07		
Collector:	Client		
Moisture:	6.71%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis Federal										
SW9045C pH Federal										
pH at Temp 18.9C	H	7.80	0.010	0.100	SU	1	AXC2 04/06/07	1707	622832	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C	

LEVEL V

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Certificate of Analysis

Company : MECX
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Aurora, Colorado 80014

Report Date: April 11, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	BLBS0041S01	Project:	SSFL00207
Sample ID:	183627008	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	02-APR-07 14:25		
Receive Date:	04-APR-07		
Collector:	Client		
Moisture:	8.66%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis Federal										
SW9045C pH Federal										
pH at Temp 19.3C	H	8.09	0.010	0.100	SU	1	AXC2 04/06/07	1711	622832	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C	

LEVEL V

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Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 11, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	BLBS0039S01	Project:	SSFL00207
Sample ID:	183627009	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	02-APR-07 14:45		
Receive Date:	04-APR-07		
Collector:	Client		
Moisture:	3.48%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis Federal										
SW9045C pH Federal										
pH at Temp 19.7C	H	6.48	0.010	0.100	SU	1	AXC2 04/06/07	1715	622832	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C	

LEVEL V

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Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 11, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	FSBS0081S01	Project:	SSFL00207
Sample ID:	183627012	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	02-APR-07 12:06		
Receive Date:	04-APR-07		
Collector:	Client		
Moisture:	8.28%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis Federal										
SW9045C pH Federal										
pH at Temp 19.4C	H	7.98	0.010	0.100	SU	1	AXC2 04/06/07	1717	622832	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C	

LEVEL V

GEL LABORATORIES LLC
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Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 11, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	FSBS0080S01	Project:	SSFL00207
Sample ID:	183627013	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	02-APR-07 12:21		
Receive Date:	04-APR-07		
Collector:	Client		
Moisture:	16.4%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis Federal										
SW9045C pH Federal										
pH at Temp 19.2C	H	5.88	0.010	0.100	SU	1	AXC2 04/06/07	1719	622832	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C	

LEVEL V

GEL LABORATORIES LLC
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Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 11, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	FSBS0072D01	Project:	SSFL00207
Sample ID:	183627014	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	02-APR-07 13:16		
Receive Date:	04-APR-07		
Collector:	Client		
Moisture:	7.87%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis Federal										
SW9045C pH Federal										
pH at Temp 18.5C	H	7.99	0.010	0.100	SU	1	AXC2 04/06/07	1721	622832	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C	

LEVEL V

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

Certificate of Analysis

Company : MECX
Address : 12269 East Vassar Drive
Aurora, Colorado 80014

Report Date: April 11, 2007

Contact: Ms. Elizabeth Wessling
Project: **Task Order 002 - SSFL Group 8 Sampling**

Client Sample ID:	FSBS0072S01	Project:	SSFL00207
Sample ID:	183627015	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	02-APR-07 13:16		
Receive Date:	04-APR-07		
Collector:	Client		
Moisture:	10.3%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Electrode Analysis Federal										
SW9045C pH Federal										
pH at Temp 18.4C	H	7.85	0.010	0.100	SU	1	AXC2 04/06/07	1728	622832	1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C	

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: General Minerals by 9045
QC Level: V[1]
SDG: IMI0487
Matrix: Soil
No. of Samples: 13
Date Reviewed: January 07, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed: MT550, MT551, MT552, MT553, MT554, MT555, MT556, MT557, MT559, MT560, MT561, MT562, MT563

Data Validation Findings

	Findings	Qualifications
1. Sample Management	Temperatures were within the QC limits of 4°±2°C. The EPA ID of sample MT558 was changed to MT563 per a memo from MWH personnel dated 09/09/03. The COC accounted for the samples and analyses. No custody seal information was provided by the laboratory. The holding time for pH was exceeded for all samples in this SDG.	All sample results were qualified as estimated, "J."
3. Method Blanks	Not applicable to the pH analysis.	No qualifications were required.
5. LCS/BS .	Not applicable to the pH analysis.	No qualifications were required.
6. Duplicates None	None performed.	No qualifications were required.
7. MS/MSDs .	Not applicable to the pH analysis.	No qualifications were required.
10. Other	None	No qualifications were required.

	Findings	Qualifications
11. Field QC Samples Field duplicates: MT553/MT557	No field QC samples for pH. The field duplicate pair RPD was within the control limit of 50% for soils.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Del Mar Analytical

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9830South51stSt.,SuiteB-120,Phoenix,AZ85044(480)785-0043FAX(480)785-0851
2520E.SunsetRd.#3,LasVegas,NV89120(702)798-3620FAX(702)798-3621

MWH-SanDiego
1230ColumbiaStreet,Suite750
SanDiego,CA92101
Attention:LisaJ.Tucker

ProjectID Building56Landfill
BoeingSSFL
ReportNumber IMI0487

Sampled 09/05/03-09/09/03
Received 09/09/03

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Qual Code
SampleID:IMI0487-01(MT550-Soil) **ReportingUnits:%**					**Sampled: 09/08/03**					
PercentSolids	EPA160.3MOD	3I10089	N/A	0.010	**95**	1	09/10/03	09/10/03	*	
SampleID:IMI0487-01(MT550-Soil) **ReportingUnits:pHUnits**					**Sampled: 09/08/03**					
pH	EPA9045C	3I10097	N/A	NA	**7.21**	1	09/10/03	09/10/03	J H3	H
SampleID:IMI0487-02(MT551-Soil) **ReportingUnits:%**					**Sampled: 09/08/03**					
PercentSolids	EPA160.3MOD	3I10089	N/A	0.010	**96**	1	09/10/03	09/10/03	*	
SampleID:IMI0487-02(MT551-Soil) **ReportingUnits:pHUnits**					**Sampled: 09/08/03**					
pH	EPA9045C	3I10097	N/A	NA	**7.83**	1	09/10/03	09/10/03	J H3	H
SampleID:IMI0487-03(MT552-Soil) **ReportingUnits:%**					**Sampled: 09/08/03**					
PercentSolids	EPA160.3MOD	3I10089	N/A	0.010	**95**	1	09/10/03	09/10/03	*	
SampleID:IMI0487-03(MT552-Soil) **ReportingUnits:pHUnits**					**Sampled:09/08/03**					
pH	EPA9045C	3I10097	N/A	NA	**6.63**	1	09/10/03	09/10/03	J H3	H
SampleID:IMI0487-04(MT553-Soil) **ReportingUnits:%**					**Sampled: 09/08/03**					
PercentSolids	EPA160.3MOD	3I10089	N/A	0.010	**97**	1	09/10/03	09/10/03	*	
SampleID:IMI0487-04(MT553-Soil) **ReportingUnits:pHUnits**					**Sampled:09/08/03**					
pH	EPA9045C	3I10097	N/A	NA	**5.85**	1	09/10/03	09/10/03	J H3	H
SampleID:IMI0487-05(MT554-Soil) **ReportingUnits:%**					**Sampled: 09/08/03**					
PercentSolids	EPA160.3MOD	3I10089	N/A	0.010	**94**	1	09/10/03	09/10/03	*	
SampleID:IMI0487-05(MT554-Soil) **ReportingUnits:pHUnits**					**Sampled: 09/08/03**					
pH	EPA9045C	3I10097	N/A	NA	**8.19**	1	09/10/03	09/10/03	J H3	H

* Analysis not validated

AMEC VALIDATED

LEVEL V

DelMarAnalytical,Irvine
MicheleHarper
ProjectManager

Theresultspertainonlytothesamplestestedinthelaboratory.Thisreportshallnotbereproduced, exceptinfull,withoutwrittenpermissionfromDelMarAnalytical.

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 (949) 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

MWH-SanDiego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

ProjectID: Building 56 Landfill
Boeing SSFL
ReportNumber: IMI0487

Sampled: 09/05/03-09/09/03
Received: 09/09/03

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers Rw Qual	Qual Code
SampleID:IMI0487-06(MT555-Soil) ReportingUnits:%					**Sampled: 09/08/03**					
PercentSolids	EPA160.3MOD	3I10089	N/A	0.010	**95**	1	09/10/03	09/10/03	*	
SampleID:IMI0487-06(MT555-Soil) ReportingUnits:pHUnits					**Sampled: 09/08/03**					
pH	EPA9045C	3I10097	N/A	NA	**7.77**	1	09/10/03	09/10/03	J H3	H
SampleID:IMI0487-07(MT556-Soil) ReportingUnits:%					**Sampled: 09/08/03**					
PercentSolids	EPA160.3MOD	3I10089	N/A	0.010	**83**	1	09/10/03	09/10/03	*	
SampleID:IMI0487-07(MT556-Soil) ReportingUnits:pHUnits					**Sampled: 09/08/03**					
pH	EPA9045C	3I10097	N/A	NA	**6.69**	1	09/10/03	09/10/03	J H3	H
SampleID:IMI0487-08(MT557-Soil) ReportingUnits:%					**Sampled: 09/08/03**					
PercentSolids	EPA160.3MOD	3I10089	N/A	0.010	**97**	1	09/10/03	09/10/03	*	
SampleID:IMI0487-08(MT557-Soil) ReportingUnits:pHUnits					**Sampled:09/08/03**					
pH	EPA9045C	3I10097	N/A	NA	**5.91**	1	09/10/03	09/10/03	J H3	H
SampleID:IMI0487-10(MT563-Soil) ReportingUnits:%					**Sampled: 09/08/03**					
PercentSolids	EPA160.3MOD	3I15088	N/A	0.010	**98**	1	09/15/03	09/15/03	*	
SampleID:IMI0487-10(MT563-Soil) ReportingUnits:pHUnits					**Sampled:09/08/03**					
pH	EPA9045C	3I10097	N/A	NA	**6.95**	1	09/10/03	09/10/03	J H3	H
SampleID:IMI0487-11(MT559-Soil) ReportingUnits:%					**Sampled: 09/05/03**					
PercentSolids	EPA160.3MOD	3I15088	N/A	0.010	**80**	1	09/15/03	09/15/03	*	
SampleID:IMI0487-11(MT559-Soil) ReportingUnits:pHUnits					**Sampled: 09/05/03**					
pH	EPA9045C	3I10097	N/A	NA	**6.85**	1	09/10/03	09/10/03	J H3	H

* analysis not validated

AMEC VALIDATED

LEVEL V

DelMarAnalytical,Irvine
MicheleHarper
ProjectManager

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Del Mar Analytical

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MWH-SanDiego
1230ColumbiaStreet,Suite750
SanDiego,CA92101
Attention:LisaJ.Tucker

ProjectID Building56Landfill
BoeingSSFL
ReportNumber IMI0487

Sampled 09/05/03-09/09/03
Received 09/09/03

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Raw Qual	Qual Code
SampleID:IMI0487-12(MT560-Soil) ReportingUnits:%					**Sampled: 09/05/03**						
PercentSolids	EPA160.3MOD	3I15088	N/A	0.010	**93**	1	09/15/03	09/15/03		*	
SampleID:IMI0487-12(MT560-Soil) ReportingUnits:pHUnits					**Sampled: 09/05/03**						
pH	EPA9045C	3I10097	N/A	NA	**8.43**	1	09/10/03	09/10/03	J H3		H
SampleID:IMI0487-13(MT561-Soil) ReportingUnits:%					**Sampled: 09/09/03**						
PercentSolids	EPA160.3MOD	3I15088	N/A	0.010	**98**	1	09/15/03	09/15/03		*	
SampleID:IMI0487-13(MT561-Soil) ReportingUnits:pHUnits					**Sampled: 09/09/03**						
pH	EPA9045C	3I10097	N/A	NA	**7.85**	1	09/10/03	09/10/03	J		H
SampleID:IMI0487-14(MT562-Soil) ReportingUnits:%					**Sampled: 09/09/03**						
PercentSolids	EPA160.3MOD	3I15088	N/A	0.010	**98**	1	09/15/03	09/15/03		*	
SampleID:IMI0487-14(MT562-Soil) ReportingUnits:pHUnits					**Sampled:09/09/03**						
pH	EPA9045C	3I10097	N/A	NA	**6.99**	1	09/10/03	09/10/03	J		H

* Analysis not validated

AMEC VALIDATED

LEVEL V

DelMarAnalytical,Irvine
MicheleHarper
ProjectManager

Theresultspertainonlytothesamplestestedinthelaboratory.Thisreportshallnotbereproduced, exceptinfull,withoutwrittenpermissionfromDelMarAnalytical.

SOIL – NOT VALIDATED

DATE: September 26, 2003

CLIENT: Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606

ATTENTION: Michele Harper

REFERENCE: Project#IMI1169

REPORT NO: 90032

DATE SAMPLED: 9/19/03 at 8:27 to 9:13

DATE RECEIVED: September 22, 2003

DATE ANALYZED: September 26, 2003

SUBJECT: Polarized Light Microscopy Analysis for Asbestos 7 Sample(s).

The sample(s) were identified as: IMI1169-04, IMI1169-06, IMI1169-08, IMI1169-09G,-09H,-09I

The soil samples were analyzed by polarized light microscopy as described in the "Method for the Determination of Asbestos in Bulk Building Material" (US EPA 600/R-93/116). The samples were dried. Conglomerated material was desegregated by using a rubber mallet in order to not crush the rock fragments, and then separated into coarse and fine fractions for analysis.

The limit of detection is generally regarded to be approximately 1 percent by polarized light microscopy (PLM). The procedure is also limited by the width of the fiber bundles which must be at least 2μm in width in order to be analyzed by PLM.

The result(s) of the analyses are summarized on the following page(s).

Respectfully submitted,

EMS LABORATORIES, INC.

A. J. Kolk, Jr.
Technical Director
AJK/vm

Note: The results of the analysis are based upon the samples submitted to the laboratory. No representation is made regarding the sampling area other than that implied by the analytical results for the immediate vicinity of the samples analyzed as calculated from the data presented with those samples.
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Any deviation or exclusion from the test method is noted in this cover letter.

Unless otherwise noted in this cover letter, the samples were received properly packaged, clearly identified and intact.

MT702-BLTS27D01

MULTIPLE GRADE

LABORATORY NO: 90032
CLIENT: Del Mar Analytical
SAMPLE ID: IMI1169-04
SIZE RANGE: FINE<2.0mm

DATE: September 29, 2003 PG. 2 OF 5
ATTENTION: Michele Harper

SIZE RANGE: COARSE >2.0mm

FRACTION WEIGHT	199.6 gm	FRACTION WEIGHT	67.2 gm
SAMPLE APPEARANCE	BROWN GRANULAR	SAMPLE APPEARANCE	BROWN GRANULAR
SIZE RANGE:	FINE	SIZE RANGE:	COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS	ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS
ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED	ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED
OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES VERMICULITE	NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES VERMICULITE
NO. OF FIELDS VIEWED	100 fields/prep.	NO. OF FIELDS VIEWED	100 fields/prep.
PERCENT ASBESTOS PER SLIDE	1 ND 2 ND 3 ND 4 ND	PERCENT ASBESTOS PER SLIDE	1 ND 2 ND 3 ND 4 ND

N. D. = NONE DETECTED

T= TRACE

ANALYST F. Vartaman

DATE 9/29/03

Q. C. ANALYST Carl D Berg

MT705-BLTS27S01

MULTIPLE GRADE

LABORATORY NO: 90032	DATE: September 29, 2003 PG. 3 OF 5
CLIENT: Del Mar Analytical	ATTENTION: Michele Harper
SAMPLE ID: IMI1169-06	
SIZE RANGE: FINE<2.0mm	SIZE RANGE: COARSE >2.0mm
FRACTION WEIGHT 224.2 grn	FRACTION WEIGHT 85.1 gm
SAMPLE APPEARANCE BROWN GRANULAR	SAMPLE APPEARANCE BROWN GRANULAR
SIZE RANGE: FINE	SIZE RANGE: COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY 4 PREP	ANALYSIS DESCRIPTION i.e. MORPHOLOGY 4 PREP
ASBESTOS PRESENT TYPE & PERCENT NONE DETECTED	ASBESTOS PRESENT TYPE & PERCENT NONE DETECTED
OTHER FIBROUS MATERIAL PRESENT CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT GRANULAR MINERALS OPAQUES VERMICULITE	NON-FIBROUS MATERIAL PERCENT GRANULAR MINERALS OPAQUES VERMICULITE
NO. OF FIELDS VIEWED 100 fields/prep.	NO. OF FIELDS VIEWED 100 fields/prep.
PERCENT ASBESTOS PER SLIDE 1 N.D 2 N.D 3 N.D 4 N.D	PERCENT ASBESTOS PER SLIDE 1 N.D 2 N.D 3 N.D 4 N.D

N. D. = NONE DETECTED

T= TRACE

ANALYST E. Kartaman DATE 9/29/03

Q. C. ANALYST Carl F. Bay

MT707-BLTS33S01

MULTIPLE GRADE

LABORATORY NO: 90032
CLIENT: Del Mar Analytical
SAMPLE ID: IMI1169-08

DATE: September 29, 2003 PG. 4 OF 5
ATTENTION: Michele Harper

SIZE RANGE: FINE<2.0mm		SIZE RANGE: COARSE >2.0mm	
FRACTION WEIGHT	224.3 gm	FRACTION WEIGHT	59.2 gm
SAMPLE APPEARANCE	BROWN GRANULAR	SAMPLE APPEARANCE	BROWN GRANULAR
SIZE RANGE:	FINE	SIZE RANGE:	COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREP	ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREP
ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED	ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED
OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES VERMICULITE	NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES VERMICULITE
NO. OF FIELDS VIEWED 100 fields/prep.		NO. OF FIELDS VIEWED 100 fields/prep.	
PERCENT ASBESTOS PER SLIDE	1 N.D 2 N.D 3 N.D 4 N.D	PERCENT ASBESTOS PER SLIDE	1 N.D 2 N.D 3 N.D 4 N.D

N. D. = NONE DETECTED

T= TRACE

ANALYST F. Vartanian DATE 9/29/03

Q. C. ANALYST Carl F. Bay

MT708-BLTS06S02

MULTIPLE GRADE

LABORATORY NO: 90032
CLIENT: Del Mar Analytical
SAMPLE ID: IMI1169-09G, 09H, 09I

DATE: September 29, 2003
ATTENTION: Michele Harper

SIZE RANGE: FINE<2.0mm		SIZE RANGE: COARSE >2.0mm	
FRACTION WEIGHT	131.0 gm	FRACTION WEIGHT	62.8 gm
SAMPLE APPEARANCE	BROWN GRANULAR	SAMPLE APPEARANCE	BROWN GRANULAR
SIZE RANGE:	FINE	SIZE RANGE:	COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREP	ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREP
ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED	ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED
OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES VERMICULITE	NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES VERMICULITE
NO. OF FIELDS VIEWED 100 fields/prep.		NO. OF FIELDS VIEWED 100 fields/prep.	
PERCENT ASBESTOS PER SLIDE	1 N.D 2 N.D 3 N.D 4 N.D	PERCENT ASBESTOS PER SLIDE	1 N.D 2 N.D 3 N.D 4 N.D

N. D. = NONE DETECTED

T= TRACE

ANALYST [signature]

DATE 9/29/03

Q. C. ANALYST [signature]

LABORATORY NO: 69810
CLIENT: Del Mar Analytical
SAMPLE ID: IMI0487-10E to 10H MT563
SIZE RANGE: FINE< 2mm
FRACTION
WEIGHT 201.5 gm
BLST03S01

SAMPLE APPEARANCE: BROWN GRANULAR

SIZE RANGE: FINE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY: 4 PREPS

ASBESTOS PRESENT TYPE & PERCENT: CHRYSOTILE LESS THAN 1%

OTHER FIBROUS MATERIAL PRESENT: CELLULOSE LESS THAN 1%

NON-FIBROUS MATERIAL PERCENT: GRANULAR MINERALS, OPAQUES, MICA

NO OF FIELDS VIEWED 100 fields/prep

AVERAGE PERCENTAGE OF 4 PREP: CHRYSOTILE= POINT CT 0.58/400

DATE: October 7, 2003 PG. 2 OF 6
ATTENTION: Michele Harper

SIZE RANGE: COARSE > 2mm
FRACTION
WEIGHT 90.2 gm

SAMPLE APPEARANCE: BROWN GRANULAR

SIZE RANGE: COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY: 4 PREPS

ASBESTOS PRESENT TYPE & PERCENT: CHRYSOTILE TRACE

OTHER FIBROUS MATERIAL PRESENT: CELLULOSE LESS THAN 1%

NON-FIBROUS MATERIAL PERCENT: GRANULAR MINERALS, OPAQUES, MICA

NO. OF FIELDS VIEWED 100 fields/prep

AVERAGE PERCENTAGE OF 4 PREP: CHRYSOTILE= POINT CT 0/400

N.D. = NONE DETECTED
T= TRACE

ANALYST [signature] DATE 10-18-03
Q C ANALYST [signature]

LABORATORY NO: 89810
CLIENT Del Mar Analytical
SAMPLE ID: IMI0487-11D to 11F MT569
SIZE RANGE: FINE< 2mm
FRACTION BLST0150
WEIGHT 99.8 gm

SAMPLE
APPEARANCE BROWN GRANULAR

SIZE RANGE. FINE
ANALYSIS
DESCRIPTION 4 PREPS
i.e.
MORPHOLOGY

ASBESTOS
PRESENT NONE DETECTED
TYPE & PERCENT

OTHER
FIBROUS CELLULOSE LESS THAN 1%
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES
VERMICULITE

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE N.D
PERCENTAGE
OF 4 PREP

DATE: October 7, 2003 PG. 3 OF 6
ATTENTION: Michele Harper

SIZE RANGE: COARSE > 2mm
FRACTION
WEIGHT 78.2 gm

SAMPLE
APPEARANCE BROWN GRANULAR

SIZE RANGE: COARSE
ANALYSIS
DESCRIPTION 4 PREPS
i.e.
MORPHOLOGY

ASBESTOS
PRESENT NONE DETECTED
TYPE & PERCENT

OTHER
FIBROUS CELLULOSE LESS THAN 1%
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES
VERMICULITE

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE N.D
PERCENTAGE
OF 4 PREP

N. D. = NONE DETECTED

T= TRACE

ANALYST [signature] DATE 10/13/03

Q. C. ANALYST [signature]

LABORATORY NO: 89810
CLIENT: Del Mar Analytical
SAMPLE ID: IMI0487-12D to 12F MT560
SIZE RANGE: FINE< 2mm
FRACTION
WEIGHT 98.5 gm

BLST02S01

SAMPLE
APPEARANCE BROWN GRANULAR

SIZE RANGE: FINE
ANALYSIS
DESCRIPTION 4 PREPS
i e
MORPHOLOGY

ASBESTOS
PRESENT NONE DETECTED
TYPE & PERCENT

OTHER
FIBROUS CELLULOSE LESS THAN 1%
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES
MICA

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE N D
PERCENTAGE
OF 4 PREP

DATE: October 7, 2003 PG. 4 OF 6
ATTENTION: Michele Harper

SIZE RANGE: COARSE > 2mm
FRACTION
WEIGHT 84.3 gm

SAMPLE
APPEARANCE BROWN GRANULAR

SIZE RANGE: COARSE
ANALYSIS
DESCRIPTION 4 PREPS
i.e.
MORPHOLOGY

ASBESTOS
PRESENT NONE DETECTED
TYPE & PERCENT

OTHER
FIBROUS CELLULOSE LESS THAN 1%
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES
MICA

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE N.D
PERCENTAGE
OF 4 PREP

N D = NONE DETECTED

T= TRACE

ANALYST [signature]

Q. C. ANALYST [signature]

DATE 10/13/03

LABORATORY NO:	89810	DATE: October 7, 2003	PG. 5 OF 6
CLIENT.	Del Mar Analytical	ATTENTION:	Michele Harper
SAMPLE ID:	IMI0487-13D to 13F MT561		
SIZE RANGE: FINE< 2mm		SIZE RANGE: COARSE > 2mm	
FRACTION	BLST0558	FRACTION	
WEIGHT	44.9 gm	WEIGHT	27.6 gm
SAMPLE APPEARANCE	BROWN GRANULAR	SAMPLE APPEARANCE	BROWN GRANULAR
SIZE RANGE.	FINE	SIZE RANGE:	COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS	ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS
ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED	ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED
OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES MICA	NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES MICA
NO. OF FIELDS VIEWED 100 fields/prep.		NO. OF FIELDS VIEWED 100 fields/prep.	
AVERAGE PERCENTAGE OF 4 PREP	N.D	AVERAGE PERCENTAGE OF 4 PREP	N.D

N. D. = NONE DETECTED

T= TRACE

ANALYST [signature] DATE 10-13-03

Q C ANALYST [signature]

LABORATORY NO: 89810
CLIENT Del Mar Analytical
SAMPLE ID. IMI0487-14D to 14F MT562
SIZE RANGE FINE< 2mm
FRACTION BLSTD4SD1
WEIGHT 157.1 gm

SAMPLE APPEARANCE BROWN GRANULAR

SIZE RANGE ANALYSIS DESCRIPTION i.e. MORPHOLOGY FINE

4 PREP

ASBESTOS PRESENT TYPE & PERCENT NONE DETECTED

OTHER FIBROUS MATERIAL PRESENT CELLULOSE LESS THAN 1%

NON-FIBROUS MATERIAL PERCENT GRANULAR MINERALS OPAQUES

NO OF FIELDS VIEWED 100 fields/prep.

AVERAGE PERCENTAGE OF 4 PREP N.D

DATE: October 7, 2003 PG. 6 OF 6
ATTENTION: Michele Harper

SIZE RANGE: COARSE > 2mm
FRACTION
WEIGHT 75.1 gm

SAMPLE APPEARANCE BROWN GRANULAR

SIZE RANGE: COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY 4 PREP

ASBESTOS PRESENT TYPE & PERCENT NONE DETECTED

OTHER FIBROUS MATERIAL PRESENT CELLULOSE LESS THAN 1%

NON-FIBROUS MATERIAL PERCENT GRANULAR MINERALS OPAQUES

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE PERCENTAGE OF 4 PREP N.D

N. D. = NONE DETECTED T= TRACE

ANALYST DATE 10-13-03

Q. C. ANALYST

LABORATORY NO: 69782
CLIENT: Del Mar Analytical
SAMPLE ID: IM10405-04
MT543
BLST02S02
SIZE RANGE: FINE<0.5mm
FRACTION
WEIGHT 196.6 gm

SAMPLE
APPEARANCE BROWN GRANULAR

SIZE RANGE: FINE
ANALYSIS
DESCRIPTION 4 PREP PER SAMPLE
i.e.
MORPHOLOGY

ASBESTOS
PRESENT NONE DETECTED
TYPE & PERCENT

OTHER FIBROUS MATERIAL PRESENT CELLULOSE LESS THAN 1%

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES
VERMICULITE

NO. OF FIELDS VIEWED 100 fields/prep.

PERCENT 1 ND
ASBESTOS 3 ND
PER SLIDE 2 ND
4 ND

N. D. = NONE DETECTED

DATE: September 19, 2003 PG. 2 OF 2
ATTENTION: Michele Harper

SIZE RANGE: COARSE >0.5mm
FRACTION
WEIGHT 106.5 gm

SAMPLE
APPEARANCE BROWN GRANULAR

SIZE RANGE: COARSE
ANALYSIS
DESCRIPTION 4 PREP PER SAMPLE
i.e.
MORPHOLOGY

ASBESTOS
PRESENT NONE DETECTED
TYPE & PERCENT

OTHER FIBROUS MATERIAL PRESENT CELLULOSE 2%

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES

NO. OF FIELDS VIEWED 100 fields/prep.

PERCENT 1 ND
ASBESTOS 3 ND
PER SLIDE 2 ND
4 ND

T= TRACE

ANALYST F. Vartanian DATE 9/19/03
Q. C. ANALYST

DATE: October 7, 2003

CLIENT: Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606

ATTENTION: Michele Harper

REFERENCE: Project ID#IMI0247

REPORT NO: 89735

DATE SAMPLED: 09/04/03 at 9:30 -13:10

DATE RECEIVED: September 8, 2003

DATE ANALYZED: September 22, 2003

SUBJECT: Polarized Light Microscopy Analysis for Asbestos 5 Sample(s).

The sample(s) were identified as: IMI0247-02(-M, -N,-O, -P, -Q, -R) IMI0247-03(-M, -N,-O, -P, -Q, -R), IMI0247-04(-M, -N,-O, -P, -Q, -R), IMI0247-05(-K, -L, -M, -N), IMI0247-06(-E, -F)

The soil samples were analyzed by polarized light microscopy as described in the "Method for the Determination of Asbestos in Bulk Building Material" (US EPA 600/R-93/116). The samples were dried. Conglomerated material was desegregated by using a rubber mallet in order to not crush the rock fragments, and then separated into coarse and fine fractions for analysis.

The limit of detection is generally regarded to be approximately 1 percent by polarized light microscopy (PLM). The procedure is also limited by the width of the fiber bundles which must be at least 2μm in width in order to be analyzed by PLM.

The result(s) of the analyses are summarized on the following page(s).

Respectfully submitted,

EMS LABORATORIES, INC.

A. J. Kolk, Jr.
Technical Director
AJK/vm

Note: The results of the analysis are based upon the samples submitted to the laboratory. No representation is made regarding the sampling area other than that implied by the analytical results for the immediate vicinity of the samples analyzed as calculated from the data presented with those samples.
This report shall not be reproduced, except in full, without the written approval of EMS Laboratories, Inc.
Any deviation or exclusion from the test method is noted in this cover letter.
Unless otherwise noted in this cover letter, the samples were received properly packaged, clearly identified and intact.

LABORATORY NO:	89735	DATE: October 7, 2003	PG. 2 OF 6
CLIENT:	Del Mar Analytical	ATTENTION:	Michele Harper
SAMPLE ID:	IMI0247-02M to 02R		
SIZE RANGE: FINE<2mm		SIZE RANGE: COARSE >2mm	
FRACTION		FRACTION	
WEIGHT	266.7 gm	WEIGHT	165 gm
SAMPLE APPEARANCE	BROWN GRANULAR	SAMPLE APPEARANCE	BROWN GRANULAR
SIZE RANGE:	FINE	SIZE RANGE:	COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS	ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS
ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED	ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED
OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES MICA	NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES MICA
NO. OF FIELDS VIEWED 100 fields/prep.		NO. OF FIELDS VIEWED 100 fields/prep.	
AVERAGE PERCENTAGE OF 4 PREP	ND	AVERAGE PERCENTAGE OF 4 PREP	ND

N. D. = NONE DETECTED

T= TRACE

ANALYST F. Vartanian DATE 10-7-03

Q. C. ANALYST Carl F Bey

LABORATORY NO:	89735	DATE: October 7, 2003	PG. 3 OF 6
CLIENT:	Del Mar Analytical	ATTENTION:	Michele Harper
SAMPLE ID:	IMI0247-03M to 03R		
SIZE RANGE: FINE<2mm		SIZE RANGE: COARSE >2mm	
FRACTION WEIGHT	251.1 gm	FRACTION WEIGHT	208 gm
SAMPLE APPEARANCE	BROWN GRANULAR	SAMPLE APPEARANCE	BROWN GRANULAR
SIZE RANGE:	FINE	SIZE RANGE:	COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS	ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS
ASBESTOS PRESENT TYPE & PERCENT	AMOSITE LESS THAN 1% CHRYSOTILE TRACE	ASBESTOS PRESENT TYPE & PERCENT	CHRYSOTILE LESS THAN 1% AMOSITE LESS THAN 1%
OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES MICA	NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES MICA
NO. OF FIELDS VIEWED 100 fields/prep.		NO. OF FIELDS VIEWED 100 fields/prep.	
AVERAGE PERCENTAGE OF 4 PREP	AMOSITE= POINT CT 0.83/400 CHRYSOTILE=POINT CT 0/400	AVERAGE PERCENTAGE OF 4 PREP	CHRYSOTILE=POINT CT 0.13/400 AMOSITE= POINT CT 0.875/400

N. D. = NONE DETECTED

T= TRACE

ANALYST [signature] DATE 10-7-03

Q. C. ANALYST [signature]

LABORATORY NO:	89735	DATE: October 7, 2003	PG. 4 OF 6
CLIENT:	Del Mar Analytical	ATTENTION:	Michele Harper
SAMPLE ID:	IMI0247-04M to 04R		
SIZE RANGE: FINE<2mm		SIZE RANGE: COARSE >2mm	
FRACTION WEIGHT	262.4 gm	FRACTION WEIGHT	226 gm
SAMPLE APPEARANCE	BROWN GRANULAR	SAMPLE APPEARANCE	BROWN GRANULAR
SIZE RANGE:	FINE	SIZE RANGE:	COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS	ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS
ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED	ASBESTOS PRESENT TYPE & PERCENT	NONE DETECTED
OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES MICA	NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES MICA
NO. OF FIELDS VIEWED 100 fields/prep.		NO. OF FIELDS VIEWED 100 fields/prep.	
AVERAGE PERCENTAGE OF 4 PREP	N.D	AVERAGE PERCENTAGE OF 4 PREP	N.D

N. D. = NONE DETECTED

T= TRACE

ANALYST [signature] DATE 10-7-03

Q. C. ANALYST [signature]

MT537-BLBN06S01

LABORATORY NO:	89735	DATE: October 7, 2003	PG. 5 OF 6
CLIENT:	Del Mar Analytical	ATTENTION:	Michele Harper
SAMPLE ID:	IMI0247-05K to 05O		
SIZE RANGE: FINE<2mm		SIZE RANGE: COARSE >2mm	
FRACTION WEIGHT	154.6 gm	FRACTION WEIGHT	231.5 gm
SAMPLE APPEARANCE	BROWN GRANULAR	SAMPLE APPEARANCE	BROWN GRANULAR
SIZE RANGE:	FINE	SIZE RANGE:	COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS	ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS
ASBESTOS PRESENT TYPE & PERCENT	AMOSITE TRACE	ASBESTOS PRESENT TYPE & PERCENT	AMOSITE TRACE
OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES VERMICULITE MICA	NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES VERMICULITE MICA
NO. OF FIELDS VIEWED	100 fields/prep.	NO. OF FIELDS VIEWED	100 fields/prep.
AVERAGE PERCENTAGE OF 4 PREP	AMOSITE= POINT CT 0/400	AVERAGE PERCENTAGE OF 4 PREP	AMOSITE= POINT CT 0/400

N. D. = NONE DETECTED

T= TRACE

ANALYST [signature] DATE 10-7-03

Q. C. ANALYST [signature]

LABORATORY NO: 89735
CLIENT: Del Mar Analytical
SAMPLE ID: IMI0247-06E & 06F
SIZE RANGE: FINE<2mm
FRACTION
WEIGHT 93 gm

SAMPLE
APPEARANCE BROWN GRANULAR

SIZE RANGE: FINE
ANALYSIS
DESCRIPTION 4 PREP
i.e.
MORPHOLOGY

ASBESTOS
PRESENT AMOSITE LESS THAN 1%
TYPE & PERCENT

OTHER CELLULOSE LESS THAN 1%
FIBROUS
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES
MICA

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE AMOSITE= POINT CT 1.38/400
PERCENTAGE
OF 4 PREP

DATE: October 7, 2003 PG. 6 OF 6
ATTENTION: Michele Harper

SIZE RANGE: COARSE >2mm
FRACTION
WEIGHT 56.1 gm

SAMPLE
APPEARANCE BROWN GRANULAR

SIZE RANGE: COARSE
ANALYSIS
DESCRIPTION 4 PREP
i.e.
MORPHOLOGY

ASBESTOS
PRESENT AMOSITE LESS THAN 1%
TYPE & PERCENT

OTHER CELLULOSE LESS THAN 1%
FIBROUS
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES
MICA

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE AMOSITE= POINT CT 1.5/400
PERCENTAGE
OF 4 PREP

N. D. = NONE DETECTED

T= TRACE

ANALYST F. Vartanian DATE 10/7/03

Q. C. ANALYST

MULTIPLE GRADE

LABORATORY NO:	89845	DATE: September 17, 2003	PG. 2 OF 2
CLIENT:	Del Mar Analytical	ATTENTION:	Michele Harper
SAMPLE ID:	IMI-0125-04 MT628		
SIZE RANGE: FINE<2mm		SIZE RANGE: COARSE >2mm	
FRACTION	BLTS23S01	FRACTION	
WEIGHT	170.9 gm	WEIGHT	99.6 gm
SAMPLE APPEARANCE	BROWN GRANULAR	SAMPLE APPEARANCE	BROWN GRANULAR
SIZE RANGE:	FINE	SIZE RANGE:	COARSE
ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS	ANALYSIS DESCRIPTION i.e. MORPHOLOGY	4 PREPS
ASBESTOS PRESENT	CHRYSOTILE TRACE POINT CT: 0/400	ASBESTOS PRESENT	CHRYSOTILE TRACE POINT CT 0/400
TYPE & PERCENT	AMOSITE LESS THAN 1% POINT CT: 1/400	TYPE & PERCENT	AMOSITE TRACE POINT CT 0/400
OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%	OTHER FIBROUS MATERIAL PRESENT	CELLULOSE LESS THAN 1%
NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES	NON-FIBROUS MATERIAL PERCENT	GRANULAR MINERALS OPAQUES
NO. OF FIELDS VIEWED 100 fields/prep.		NO. OF FIELDS VIEWED 100 fields/prep.	
PERCENT ASBESTOS PER SLIDE	1 ND 3 CHRYSOTILE TRACE 2 AMOSITE LESS THAN 1% 4 ND	PERCENT ASBESTOS PER SLIDE	1 AMOSITE TRACE 3 ND 2 CHRYSOTILE TRACE 4 ND

N. D. = NONE DETECTED

T= TRACE

ANALYST R. Vartanian DATE 9/19/03

Q. C. ANALYST [signature]

REPORT NO:	89186	CLIENT:	DEL MAR ANALYTICAL 2852 ALTON PARKWAY IRVINE, CA 92606
DATE:	Aug 26, 2003		
DATE RECEIVED:	Aug 25, 2003	ATTENTION:	MICHELE HARPER
DATE ANALYZED:	Aug 26, 2003	REFERENCE:	PROJECT ID: IMH1307
DATE / TIME COLLECTED:	NOT PROVIDED		

SUBJECT: Polarized Light Microscopy Analysis for Asbestos; 2 Samples

METHODOLOGY: NIOSH 9002

ACCREDITED: National Institute of Standards and Technology (NVLAP) #101218

CERTIFIED: California Department of Health Services Environmental Testing Laboratory ELAP 1119, County Sanitation Districts of Los Angeles County, Laboratory Identification No. 10120

QUALITY CONTROL SAMPLE (SRM 1866 GLASS FIBERS AS THE BLANK): NONE DETECTED

SAMPLE ID NUMBER	SAMPLE LOCATION & DESCRIPTION	VISUAL DESCRIPTION	ASBESTIFORM MINERALS	OTHER FIBROUS MATERIALS	NON-FIBROUS MATERIALS
IMH1307-01 MT504 -BLBN01S01	FRIABLE	BROWN GRANULAR	AMOSITE LESS THAN 1%	NONE DETECTED	GRANULAR MINERALS OPAQUES
IMH1307-02 MT505 -BLBN02S01	FRIABLE	BROWN GRANULAR	AMOSITE LESS THAN 1%	NONE DETECTED	GRANULAR MINERALS OPAQUES

Optical Microscopist

BMK/vm

B.M. Kolk, Laboratory Director

The EPA method is a semi quantitative procedure. The detection limit is between 1/10 to 1 percent by area and is dependent upon the size of the asbestos fibers, the means of sampling and the matrix of the sampled material.

The test results reported are for the sample or samples delivered to us and may not represent the entire material from which the sample was taken. The EPA recommends three samples or more be taken of a "homogeneous sampling area" before friable material is considered non-asbestos-containing.

This report, from a NIST accredited laboratory through NVLAP, must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

NOTE: This report shall not be reproduced, except in full, without the written approval of EMS Laboratories, Inc.

** Negative floor tile samples may contain significant amounts (>1%) of very thin asbestos fibers which cannot by detected by PLM. Confirmation by X-Ray diffraction or TEM is recommended by EPA (Federal Register Vol. 59, No. 146).

EMS LABORATORIES 117 West Bellevue Drive / Pasadena CA 91105-2503 /626-568-4065

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMH1307

SENDING LABORATORY:

Del Mar Analytical, Irvine
2852 Alton Parkway
Irvine, CA 92606
Phone: (949) 261-1022
Fax: (949) 261-1228
Project Manager: Michele Harper

RECEIVING LABORATORY:

EMS Laboratories
117 W. Bellevue Drive
Pasadena, CA 91105
Phone :(626) 568-4065
Fax: (626) 796-5282

Work Order Comments: Perchlorate RL=4ug/l. J flag to MDL. Spike 10ppb on ALL detections >MDL. Level 4 QC. Access 7 EDD.

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

Analysis	Expiration	Comments
Sample ID: IMH1307-01 Soil	**Sampled: 08/22/03 08:15**	
Asbestos By TEM	08/24/03 08:15	Subcontract to EMS Labs
Containers Supplied:		
Brass Sleeve (IMH1307-01B)		
Sample ID: IMH1307-02 Soil	**Sampled: 08/22/03 12:00**	
Asbestos By TEM	08/24/03 12:00	Subcontract to EMS Labs
Containers Supplied:		
Brass Sleeve (IMH1307-02B)		

Release Notes:

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

Released By	Date	Time	Received By	Date	Time
[signature]	8-25-03	1445	[signature]	8/25/03	1445
[signature]	8/25/03	1600	[signature]	8-25-03	4pm

SUBMITTAL FORM/*Laboratory Services*

PAGE 1 OF 1

TURNAROUND TIME: STD ✓ 48 HR. ☐ 24 HR. ☐
<8 HR. ☐ WKND ☐ OTHER: ☐

RELINQUISHED BY
TIME / DATE

CLIENT
ADDRESS
TELEPHONE
CONTACT

DATE OF SHIPMENT
CARRIER
CLIENT P.O. NO.
CLIENT JOB/PROJECT ID NO(S).
PACKAGE SHIPPED FROM

RESULTS REQUESTED VIA VERBAL ☐ FAX ☐
CLIENT FAX NO.
(NOTE: Complete written reports will follow all analyses, in addition to any prior transmitted verbal or fax results.)

DATE/TIME OF SAMPLE COLLECTION
SAMPLE PRESERVATIVES
HOLDING TIMES
NO. OF SAMPLES SENT
SAMPLER'S NAME
SIGNATURE PRINTED
TYPE: ☐ WATER ☐ WASTE WATER ☐ SOIL ☐ FILTER ☐ SORBENT TUBE ☐ IMPINGER ☐ OTHER

(FOR EMS ONLY) EMS Sample No.	CLIENT SAMPLE NO.	DESCRIPTION LOCATION	ANALYSIS	VOLUME TIME WEIGHT (IF APPLICABLE)

89486

(SF 5/00)

FOR EMS ONLY

Laboratory No.
Received By
Time
Date of Package Delivery
Shipping Bill Retained: YES ☐ NONE ☐
Condition of Package on Receipt
Condition of Custody Seal
(NOTE: If the package has sustained substantial damage or the custody seal is broken, stop and contact the project manager and the shipper.)
No. of Samples
Chain-of-Custody Signature
Date of Acceptance into Sample Bank
Misc. Info.
Disposition of Samples

EMS LABORATORIES 117 West Bellevue Drive / Pasadena CA 91105-2503 / 626-568-4065

Appendix A3

Soil Sampling — Landfill and Burn Pit

LANDFILL SAMPLING

Notes on Sampling

Samples were collected in either 4- or 16-oz glass jars. Samples for analysis of volatile organic constituents (VOC) were collected with a slide hammer in 2-in. x 6-in. brass cylinders. The ends were capped with Teflon sheets and plastic caps and sealed with clear plastic tape. Because a limited number of samples were to be analyzed for volatile organic constituents, samples were, in general, taken from zones which were judged to have the potential for containing those constituents. These judgments were based on the presence of soil mottling, staining, discoloration, or odor. In the Burn Pit cells, samples were taken from trenches because the trench was located in an area which generally was disturbed.

Trench LF-1 **03/30/87** **12:50 — 13:30**

The trench was approximately 35 ft long and 4 to 6 ft deep. The top 2 ft of soil was composed of light brown silty sand with some sandstone cobbles. There was one small zone, 1 ft thick, of dark brown silty sand. From 2 ft to total depth, the soil was medium brown silty sand. Three 4-oz samples were collected from the bottom of the trench at 15:10 (LF-11, LF-12, LF-13). No VOA sample was taken. There were no suspicious materials found. There were no odors and no positive readings from the "Miran" sniffer.

Trench LF-2 **03/30/87** **13:30 — 13:50**

The trench was approximately 25 ft long and 6 to 10 ft deep. At the west end of the trench, asphalt chunks and charred wood were found on the surface. The soil was composed of light brown silty sand with Chatsworth Formation sandstone cobbles. The soil beneath the surface appeared to be undisturbed. Three 4-oz samples were collected at 8 ft in from the stake, 10 ft deep (LF-21, LF-22, LF-23). No unusual odors were noted.

Trench LF-3 **03/30/87** **13:50 — 14:15**

The trench was 15 ft long and 10 to 12 ft deep. The soil was composed of light brown silty sand with sandstone cobbles. A 1-ft-thick zone of flaky material was observed at the surface. Four-oz glass sample LB-34 was taken 3 ft in from the stake at the surface. Three 4-oz samples were collected 6 ft in from the stake, 12 ft down, at 14:15 (LF-31, LF-32, LF-33). No unusual odors were noted.

Trench LF-4 **03/30/87** **14:15 — 14:30**

The trench was 15 ft long and 10 ft deep. The top 2 to 3 ft of material was composed of medium brown silty sand with construction debris (metal, concrete, asphalt, etc.). From 3 ft to total depth, the soil was light brown silty sand with

sandstone cobbles. Three 4-oz samples were collected 6 ft in from the stake, 6 ft down, at 14:30 (LF-41, LF-42, LF-43). No unusual odors were noted.

Trench LF-5 03/30/87 — Completed 03/31/87 15:20 —

The trench was approximately 15 ft long and 12 ft deep. The top 3.5 ft of soil was composed of medium brown clayey sand with some silt. Pieces of wood and concrete were observed. From 3.5 to 5 ft, soil was dark brown mottled stiff clay with building debris (concrete, rebar, etc.) present. From 5 ft to total depth, the soil was yellowish brown clayey sand, probably weathered Chatsworth Formation. Four 4-oz samples and one ziplock bag were collected 12 ft in from the stake, 12.5 ft deep (LB-5-1, 2, 3, 4, and 5). No unusual odor was noted.

Trench LF-6 03/31/87 9:40 — 10:05

The trench was approximately 15 ft long and 9 ft deep. Soil was light brown clayey silt with no building debris. Collected one VOA sample (LF-6), 6 ft in from stake and 9 ft down. Five 4-oz samples were collected 6 ft in from the stake, 9 ft down (LF-6-1, 2, 3, 4, and 5). No unusual odor was noted. A VOA sample was taken from this location because a VOA sample was needed from the central region of the Landfill.

SAMPLES COLLECTED FROM RAVINE NORTHWEST OF LANDFILL (DENOTED LFR-)

All samples were collected for volatile organic analysis with a slide hammer ~8 in. below surface at bottom of drainage. The samples were collected in order to determine if any volatile organic constituents had leached from the Landfill into the soils of the small ephemeral drainage which runs along the northwest of the Landfill.

LFR-1

Sample was collected at 14:27 at upstream edge of Landfill, west of well RD-7.

LFR-2

Sample was collected approximately 100 ft downstream of LFR-1, adjacent to area where 55-gal drums were visible in the side of the slope. Metal trash and construction debris were present in immediate vicinity.

LFR-3

Sample was collected approximately 300 ft downstream of LFR-2. LFR-3 was at the edge of Landfill furthest downstream.

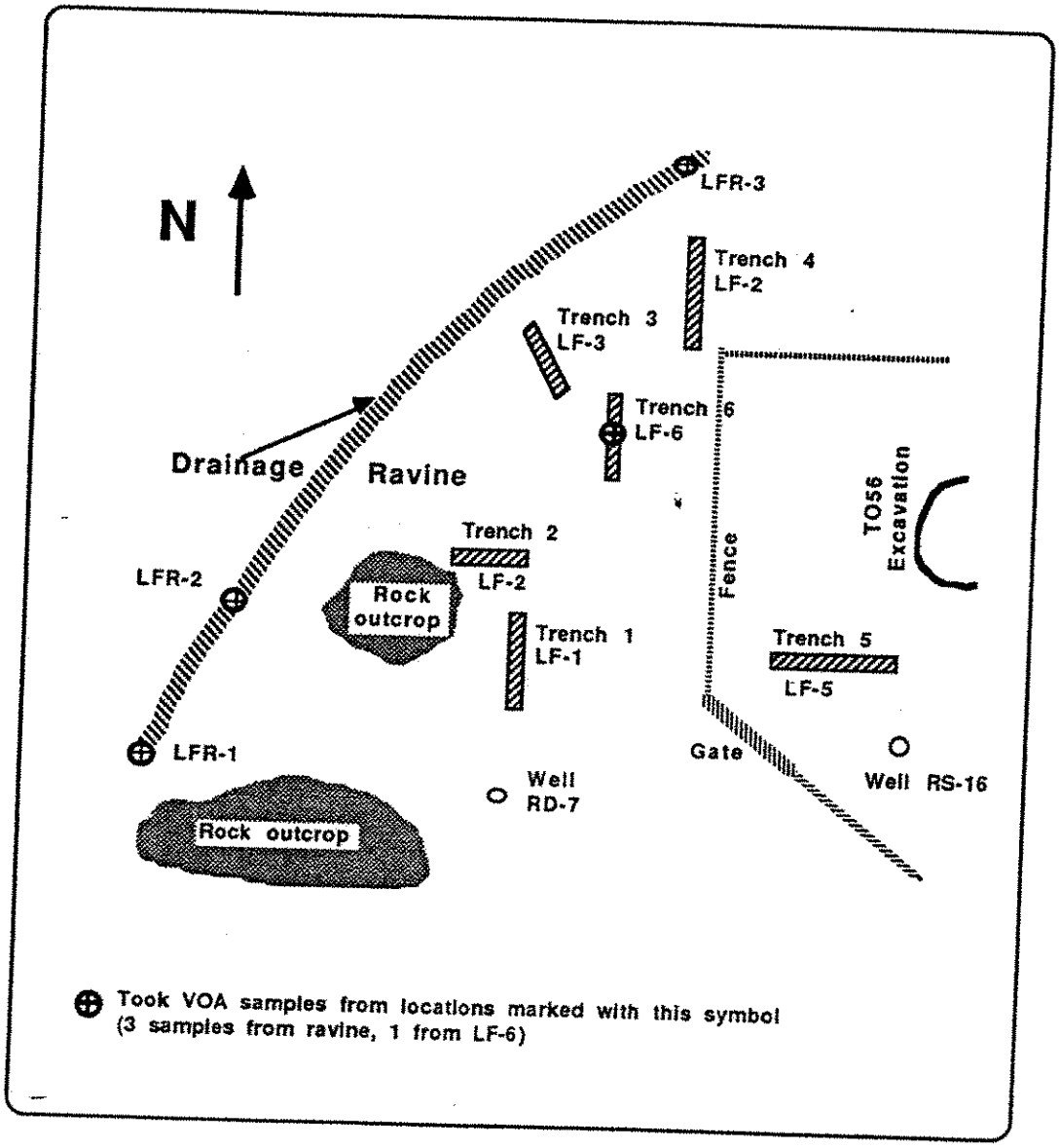

Figure A3.1. Landfill Sketch Map

Appendix A4 — Sheet 6

DATA SHEET VOA Samples

Badger
Page 6 of 6

Sample Nomenclature and discription							Date	Time	Radiological Check
									$\times 10^{-4}$
LFR-1		(NOS)				—	3/30/87	14:27	—
LFR-2		(NOS)				—	3/30/87	14:41	—
LFR-3		(NOS)				—	3/30/87	14:53	—
LF-6		(NOS)				—	3/31/87	10:05	—
BPL-1	6"-12"						4/1/87	8:40	
BPL-1	3'-3.5'						4/1/87	8:50	OK
BPL-2	6"-12"							9:15	9.7 Cs137
BPL-2	1.5'						4/1/87	—	
BPL-2	3.5-4.0						4/1/87	10:31	
BPL-2	5.5-6.0						4/1/87	—	
BPL-3	6"-12'						4/1/87	11:05	Cs137 1.8
BPL-3	3.5'						4/1/87	11:20	OK
BPL-4	6"-12"						4/1/87	11:40	Cs137 7.4
BPL-4	4.5'-5.0						4/1/87	11:45	OK
BPL-5	4.0'						4/1/87	~13:30	OK
BPL-7	6"-12"						4/1/87	13:55	Cs137 0.7
BPL-7	3'-3.5'						4/1/87	14:05	OK
BPL-8	6"-12"						4/1/87	14:30	Cs137 2.0
BPL-8	3'-3.5'						4/1/87	14:40	
BPU-3	0.5'-1'						4/2/87	8:55	
BPU-3	2.5'						4/2/87	9:15	OK
BPU-4	3'						4/2/87	9:40	OK
BPW-2	4'						4/2/87	11:15	OK
BPW-3	4.5'						4/2/87	13:30	
BPW-5	3'						4/2/87	14:35	
									Direct VOA

FORM ... REV. 12-66

Appendix B2

SSFL Analytical Chemistry Reports of Analytical Results — Landfill Soil Samples

Appendix B2 — Sheet 1 of 8

GAS CHROMATOGRAPH-MASS SPECTROMETER
CHEMICAL ANALYSIS
REPORT

LOG NUMBER
8703.452
page 1 of 2

TO: S. Lafflam, ext. 6163, MS L807

DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: >D0806::D1

DATE DUE: 17 April 1987

SAMPLED BY: G. Foushee, Groundwater Resources Consultants, Inc.
SAMPLE DESCRIPTION: LFR-1
SAMPLED ON: 30 March 1987 AT: 14:27 hrs Soil Sample

VOLATILE ORGANIC COMPOUND	RESULTS, mg/kg
Analysis date and time: 4/08/87 14:54	Quant. dil. factor = .0340
Acetone	ND <0.60
Benzene	ND <0.03
Bromodichlormethane	ND <0.03
Bromoform	ND <0.03
Bromomethane	ND <0.03
Carbon Tetrachloride	ND <0.03
Chlorobenzene	ND <0.03
Chloroethane	ND <0.03
2-Chloroethylvinyl ether	ND <0.03
Chloroform	ND <0.03
Chloromethane	ND <0.03
Dibromochlormethane	ND <0.03
1,2-Dichlorobenzene	ND <0.03
1,3-Dichlorobenzene	ND <0.10
1,4-Dichlorobenzene	ND <0.10
1,1-Dichloroethane	ND <0.10
1,2-Dichloroethane	ND <0.03
1,1-Dichloroethene	ND <0.03
trans 1,2-Dichloroethene	ND <0.03
1,2-Dichloropropane	ND <0.03
cis-1,3-Dichloropropene	ND <0.03
trans-1,3-Dichloropropene	ND <0.03
Ethyl benzene	ND <0.03
Freon-TF	ND <0.03
Isopropanol	ND <0.03
Methylene chloride	ND <0.60
1,1,2,2-Tetrachloroethane	ND <0.03
Tetrachloroethene	ND <0.03
Toluene	ND <0.03
1,1,1-Trichloroethane	ND <0.03
1,1,2-Trichloroethane	ND <0.03
Trichloroethene	ND <0.03
Trichlorofluoromethane	ND <0.03
Vinyl chloride	0.9

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240.

NOTES:
1) ND means the pollutant was not detected above the background level and hence not quantified using EPA approved methodology.
2) TR means the pollutant was detected but was below the quantification level for Method 8240.
3) ** Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.
4) ** Exceeds notification level in parenthesis.

APPROVED: M.D. Robinson
Manager

Beverly R. Hurt
SSFL Analytical Chemistry

Appendix B2 — Sheet 2 of 8

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8703.452

continued

page 2

LFR-1

ANALYTICAL RESULTS FOR 8703.452

WASTE EXTRACTION TEST (WET) TITLE 22-66700 FOR METALS	
COPPER (SW846-7210), mg/l	0.4
NICKEL (SW846-7420), mg/l	0.1
CHROMIUM (SW846-7190), mg/l	ND<0.05
CADMIUM (SW846-7130), mg/l	ND<0.005
LEAD (SW846-7420), mg/l	0.2
MERCURY (SW846-7470), mg/l	ND<0.0002
ACID DIGESTION FOR METALS-SW846-3050	
COPPER (SW846-7210), mg/kg	73
NICKEL (SW846-7420), mg/kg	ND<5
CHROMIUM (SW846-7190), mg/kg	ND<5
CADMIUM (SW846-7130), mg/kg	ND<0.5
LEAD (SW846-7420), mg/kg	TR<10
MERCURY (SW846-7471), mg/kg	ND<0.1
pH (SW846-9040 1:1 EXTRACT)	7.4
OIL AND GREASE, mg/kg (EPA 503 B, MODIFIED)	76
DIESEL FUEL, mg/kg (SW846-3550, MODIFIED)	ND<10
POLYCHLORINATED BIPHENYLS, mg/kg PCBs (SW846-8080 + 3550)	ND<0.1
TERPHENYLS (ORTHO, META, & PARA), mg/kg (SW846-3550, MODIFIED)	ND<10
BIPHENYL (SW846-3550, MOD.), mg/kg	ND<10

Appendix B2 — Sheet 3 of 8

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GAS CHROMATOGRAPH-MASS SPECTROMETER
CHEMICAL ANALYSIS
REPORT

LOG NUMBER
8703.453
page 1 of 2

TO: S. Lafflam, ext. 6163, MS L807

DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: >D0807::D1

DATE DUE: 17 April 1987

SAMPLED BY: G. Foushee, Groundwater Resources Consultants, Inc.
SAMPLE DESCRIPTION: LFR-2
SAMPLED ON: 30 March 1987 AT: 14:41 hrs Soil Sample

VOLATILE ORGANIC COMPOUND	RESULTS, mg/kg
Analysis date and time: 4/08/87 15:52	Quant. dil. factor = .0300
Acetone	ND <0.60
Benzene	ND <0.03
Bromodichlormethane	ND <0.03
Bromoform	ND <0.03
Bromomethane	ND <0.03
Carbon Tetrachloride	ND <0.03
Chlorobenzene	ND <0.03
Chloroethane	ND <0.03
2-Chloroethylvinyl ether	ND <0.03
Chloroform	ND <0.03
Chloromethane	ND <0.03
Dibromochlormethane	ND <0.03
1,2-Dichlorobenzene	ND <0.03
1,3-Dichlorobenzene	ND <0.10
1,4-Dichlorobenzene	ND <0.10
1,1-Dichloroethane	ND <0.10
1,2-Dichloroethane	ND <0.03
1,1-Dichloroethene	ND <0.03
trans 1,2-Dichloroethene	ND <0.03
1,2-Dichloropropane	ND <0.03
cis-1,3-Dichloropropene	ND <0.03
trans-1,3-Dichloropropene	ND <0.03
Ethyl benzene	ND <0.03
Freon-TF	ND <0.03
Isopropanol	ND <0.03
Methylene chloride	ND <0.60
1,1,2,2-Tetrachloroethane	ND <0.03
Tetrachloroethene	ND <0.03
Toluene	ND <0.03
1,1,1-Trichloroethane	ND <0.03
1,1,2-Trichloroethane	ND <0.03
Trichloroethene	ND <0.03
Trichlorofluoromethane	ND <0.03
Vinyl chloride	ND <0.03

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240.

NOTES:
1) ND means the pollutant was not detected above the background level and hence not quantified using EPA approved methodology.
2) TR means the pollutant was detected but was below the quantification level for Method 8240.
3) ** Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.
4) ** Exceeds notification level in parenthesis.

APPROVED: M. D. Robertson
Manager

Beverly R. Hurt
SSFL Analytical Chemistry

Appendix B2 — Sheet 4 of 8

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LFR-2

8703.453
continued
page 2

ANALYTICAL RESULTS FOR 8703.453

WASTE EXTRACTION TEST (WET) TITLE 22-66700 FOR METALS	
COPPER (SW846-7210), mg/l	0.1
NICKEL (SW846-7420), mg/l	0.05
CHROMIUM (SW846-7190), mg/l	ND<0.05
CADMIUM (SW846-7130), mg/l	ND<0.005
LEAD (SW846-7420), mg/l	0.1
MERCURY (SW846-7470), mg/l	ND<0.0002
ACID DIGESTION FOR METALS-SW846-3050	
COPPER (SW846-7210), mg/kg	20
NICKEL (SW846-7420), mg/kg	27
CHROMIUM (SW846-7190), mg/kg	12
CADMIUM (SW846-7130), mg/kg	2
LEAD (SW846-7420), mg/kg	10
MERCURY (SW846-7471), mg/kg	ND<0.1
pH (SW846-9040 1:1 extract)	8.1
OIL AND GREASE, mg/kg (EPA 503 B, MODIFIED)	42
DIESEL FUEL, mg/kg (SW846-3550, MODIFIED)	ND<10
POLYCHLORINATED BIPHENYLS, mg/kg PCBs (SW846-8080 + 3050)	ND<0.1
TERPHENYLS (ORTHO, META, & PARA), mg/kg	ND<10
BIPHENYL (SW846-3550, MOD.), mg/kg	ND<10

Appendix B2 — Sheet 5 of 8

16

GAS CHROMATOGRAPH-MASS SPECTROMETER
CHEMICAL ANALYSIS
REPORT

LOG NUMBER
8703.454
page 1 of 2

TO: S. Lafflam, ext. 6163, MS L807 DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY PHONE: 4785

MASS SPEC. FILE: >D0808::01 DATE DUE: 17 April 1987

SAMPLED BY: G. Foushee, Groundwater Resources Consultants, Inc.
SAMPLE DESCRIPTION: LFR-3
SAMPLED ON: 30 March 1987 AT: 14:53 hrs Soil Sample

VOLATILE ORGANIC COMPOUND	RESULTS, mg/kg
Analysis date and time: 4/08/87 17:44	Quant. dil. factor = .0300
Acetone	ND <0.60
Benzene	ND <0.03
Bromodichlormethane	ND <0.03
Bromoform	ND <0.03
Bromomethane	ND <0.03
Carbon Tetrachloride	ND <0.03
Chlorobenzene	ND <0.03
Chloroethane	ND <0.03
2-Chloroethylvinyl ether	ND <0.03
Chloroform	ND <0.03
Chloromethane	ND <0.03
Dibromochlormethane	ND <0.03
1,2-Dichlorobenzene	ND <0.03
1,3-Dichlorobenzene	ND <0.10
1,4-Dichlorobenzene	ND <0.10
1,1-Dichloroethane	ND <0.10
1,2-Dichloroethane	ND <0.03
1,1-Dichloroethene	ND <0.03
trans 1,2-Dichloroethene	ND <0.03
1,2-Dichloropropane	ND <0.03
cis-1,3-Dichloropropene	ND <0.03
trans-1,3-Dichloropropene	ND <0.03
Ethyl benzene	ND <0.03
Freon-TF	ND <0.03
Isopropanol	ND <0.03
Methylene chloride	ND <0.60
1,1,2,2-Tetrachloroethane	ND <0.03
Tetrachloroethene	ND <0.03
Toluene	ND <0.03
1,1,1-Trichloroethane	ND <0.03
1,1,2-Trichloroethane	ND <0.03
Trichloroethene	ND <0.03
Trichlorofluoromethane	ND <0.03
Vinyl chloride	ND <0.03

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240.

NOTES:
1) ND means the pollutant was not detected above the background level and hence not quantified using EPA approved methodology.
2) TR means the pollutant was detected but was below the quantification level for Method 8240.
3) ** Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.
4) ** Exceeds notification level in parenthesis.

APPROVED: M.D. Robertson
Manager

Beverly K. Hurt
SSFL Analytical Chemistry

Appendix B2 — Sheet 6 of 8

LFR-3

8703.454
continued
page 2

ANALYTICAL RESULTS FOR 8703.454

WASTE EXTRACTION TEST (WET) TITLE 22-66700 FOR METALS	
COPPER (SW846-7210), mg/l	0.2
NICKEL (SW846-7420), mg/l	ND<0.05
CHROMIUM (SW846-7190), mg/l	ND<0.05
CADMIUM (SW846-7130), mg/l	ND<0.005
LEAD (SW846-7420), mg/l	0.3
MERCURY (SW846-7470), mg/l	ND<0.0002
ACID DIGESTION FOR METALS-SW846-3050	
COPPER (SW846-7210), mg/kg	93
NICKEL (SW846-7420), mg/kg	12
CHROMIUM (SW846-7190), mg/kg	7
CADMIUM (SW846-7130), mg/kg	1
LEAD (SW846-7420), mg/kg	13
MERCURY (SW846-7471), mg/kg	ND<0.1
pH (SW846-9040 1:1 EXTRACT)	7.8
OIL AND GREASE, mg/kg (EPA 503 B, MODIFIED)	1100
DIESEL FUEL, mg/kg (SW846-3550, MODIFIED)	ND<10
POLYCHLORINATED BIPHENYLS, mg/kg PCBs (SW846-8080 + 3550)	ND<0.1
TERPHENYLS (ORTHO, META, & PARA), mg/kg	ND<10
BIPHENYL (SW846-3550, MOD.), mg/kg	ND<10

Appendix B2 — Sheet 7 of 8

18

GAS CHROMATOGRAPH-MASS SPECTROMETER
CHEMICAL ANALYSIS
REPORT

LOG NUMBER
8703.475
page 1 of 2

TO: S. Lafflam, ext. 6163, MS L807

DEPT/GROUP: 541

FROM: SSFL ANALYTICAL CHEMISTRY

PHONE: 4785

MASS SPEC. FILE: >D0810::D1

DATE DUE: 17 April 1987

SAMPLED BY: G. Foushee, Groundwater Resources Consultants, Inc.
SAMPLE DESCRIPTION: LRF-6
SAMPLED ON: 31 March 1987 AT: 10:05 hrs Soil Sample

VOLATILE ORGANIC COMPOUND	RESULTS, mg/kg
Analysis date and time: 4/08/87 20:38	Quant. dil. factor = .0290
Acetone	ND<0.060
Benzene	ND <0.03
Bromodichlormethane	ND <0.03
Bromoform	ND <0.03
Bromomethane	ND <0.03
Carbon Tetrachloride	ND <0.03
Chlorobenzene	ND <0.03
Chloroethane	ND <0.03
2-Chloroethylvinyl ether	ND <0.03
Chloroform	ND <0.03
Chloromethane	ND <0.03
Dibromochlormethane	ND <0.03
1,2-Dichlorobenzene	ND <0.03
1,3-Dichlorobenzene	ND <0.10
1,4-Dichlorobenzene	ND <0.10
1,1-Dichloroethane	ND <0.10
1,2-Dichloroethane	ND <0.03
1,1-Dichloroethene	ND <0.03
trans 1,2-Dichloroethene	ND <0.03
1,2-Dichloropropane	ND <0.03
cis-1,3-Dichloropropene	ND <0.03
trans-1,3-Dichloropropene	ND <0.03
Ethyl benzene	ND <0.03
Freon-TF	ND <0.03
Isopropanol	ND <0.03
Methylene chloride	ND <0.60
1,1,2,2-Tetrachloroethane	ND <0.03
Tetrachloroethene	ND <0.03
Toluene	ND <0.03
1,1,1-Trichloroethane	ND <0.03
1,1,2-Trichloroethane	ND <0.03
Trichloroethene	ND <0.03
Trichlorofluoromethane	ND <0.03
Vinyl chloride	ND <0.03

This sample was analyzed by the Purge and Trap-GC/MS techniques found in the second edition of SW-846, Methods 5030 and 8240.

NOTES:
1) ND means the pollutant was not detected above the background level and hence not quantified using EPA approved methodology.
2) TR means the pollutant was detected but was below the quantification level for Method 8240.
3) ** Quantification based on upon comparision of total ion count of the compound with that of the nearest internal standard.
4) ** Exceeds notification level in parenthesis.

APPROVED: M.D. Rutter
Manager

Beverly K. Hurt
SSFL Analytical Chemistry

Appendix B2 — Sheet 8 of 8

19

LFR-6

8703.475

continued

page 2

ANALYTICAL RESULTS FOR 8703.475

WASTE EXTRACTION TEST (WET) TITLE 22-66700 FOR METALS	
COPPER (SW846-7210), mg/l	0.1
NICKEL (SW846-7420), mg/l	0.05
CHROMIUM (SW846-7190), mg/l	ND<0.05
CADMIUM (SW846-7130), mg/l	ND<0.005
LEAD (SW846-7420), mg/l	ND<0.1
MERCURY (SW846-7470), mg/l	ND<0.0002
ACID DIGESTION FOR METALS-SW846-3050	
COPPER (SW846-7210), mg/kg	34
NICKEL (SW846-7420), mg/kg	16
CHROMIUM (SW846-7190), mg/kg	8
CADMIUM (SW846-7130), mg/kg	1
LEAD (SW846-7420), mg/kg	8
MERCURY (SW846-7471), mg/kg	ND<0.1
pH (SW846-9040 1:1 EXTRACT)	7.3
OIL AND GREASE, mg/kg (EPA 503 B, MODIFIED)	500
DIESEL FUEL, mg/kg (SW846-3550, MODIFIED)	ND<10
POLYCHLORINATED BIPHENYLS, mg/kg PCBs (SW846-8080 + 3550)	ND<0.1
TERPHENYLS (ORTHO, META, & PARA), mg/kg	ND<10
BIPHENYL (SW846-3550, MOD.), mg/kg	ND<10

P

P C C C

Centrum Analytical Laboratories, Inc.
Certified Hazardous Waste Testing Mobile & In House Laboratories

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM (COVER PAGE 1)

Laboratory Name:	Centrum Analytical Laboratories, Inc.
Address:	1401 Research Park Drive, Suite 100, Riverside, CA 92507
Telephone/Fax:	(951) 779-0310/(951) 779-0344
ELAP Certification No./ Expiration Date:	2373 / June 31, 2007
Authorized Signature Name, Title: (print)	Mark Horan, Mobile Laboratories Supervisor
Signature, Date:	
Client Name:	Montgomery Watson Harza
Project Name/No:	Boeing SSFL / 1891263.011181 / 1891264.0111811
Date(s) Sampled: (from - to)	03/05/07
Date(s) Received: (from - to)	03/05/07
Date(s) Reported: (from - to)	03/05/07
Chain of Custody received:	Yes X No _____
Comments	

(RWQCB Lab Form: Ver 6/00)

Centrum Analytical Laboratories, Inc.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

LABORATORY REPORT FORM (COVER PAGE 2)

Organic Analyses	# of Samples	# of Samples Subcontracted
VOC's by GCMS	6	0

Sample Condition: Intact

Inorganic Analyses	# of Samples	# of Samples Subcontracted

Sample Condition:

Microbiological Analyses	# of Samples	# of Samples Subcontracted

Sample Condition:

Other Types of Analyses	# of Samples	# of Samples Subcontracted

Sample Condition:

(RWQCB Lab Form: Ver 6/00)

Centrum Analytical Laboratories, Inc.

Project No: Boeing SSFL / 1891263.011181 / 1891264.0111811 (RWQCB labForm 10A; Ver6/00)

QA/QC REPORT (Continued)

II. Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

DATE PERFORMED: 03/05/07 ANALYTICAL METHOD: GCMS

BATCH #: 030507M4V1554

LAB SAMPLE I.D.: Laboratory Control Sample REPORTING UNITS: µg/L

ANALYTE	SAMPLE RESULT	SPK CONC	MS	% MS	SPIKE CONC (DUP)	MSD	% MSD	RPD	MS/MSD LIMIT	RPD Limit
1,1-Dichloroethene	0.0	50	47.40	95%	50	42.37	85%	11.2%	70-130	25
Benzene	0.0	50	48.42	97%	50	47.57	95%	1.8%	70-130	25
Trichloroethene	0.0	50	47.69	95%	50	46.90	94%	1.7%	70-130	25
Toluene	0.0	50	48.85	98%	50	47.95	96%	1.9%	70-130	25
Chlorobenzene	0.0	50	46.43	93%	50	46.48	93%	0.1%	70-130	25

III. Laboratory Quality Control Check Sample (LCS)

DATE PERFORMED: 03/05/07 ANALYTICAL METHOD: GCMS

STANDARD SUPPLY SOURCE: Centrum Analytical Laboratories DATE OF SOURCE: 02/06/07

INSTRUMENT I.D.: M4GCMS LOT NUMBER: VC-70-01

LAB LCS I.D.: Laboratory Control Sample REPORTING UNITS: µg/L

ANALYTE	SPIKE CONC	RESULT	% RECOVERY	ACP % REC LIMIT
1,1-Dichloroethene	50	47.40	95%	70-130
Benzene	50	48.42	97%	70-130
Trichloroethene	50	47.69	95%	70-130
Toluene	50	48.85	98%	70-130
Chlorobenzene	50	46.43	93%	70-130

Chain of Custody Record

Centrum Job # M4-958 b

Centrum Analytical Laboratories, Inc.
www.centrum-labs.com
lab@centrum-labs.com

1401 Research Park Drive, Suite 100
Riverside, CA 92507
Voice: 909.779.0310 ● 800.798.9336
Fax: 909.779.0344

3299 Hill Street, Suite 305
Signal Hill, CA 90755
Voice: 562.498.7005
Fax: 562.498.8617

Project No: ~~1881565.010101~~ 1891263.011181 1891264.011181

Project Name: Boeing SSFL Group 8

Project Manager: Travis Peterson

Phone: 925-975-3449 Fax:

Client Name: (Report and Billing) Montgomery Watson Harza

Address: (Report and Billing) 1340 Treat Blvd, Suite 300, Walnut Creek, CA 94597

Turn-Around Time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

*Requires PRIOR approval, additional charges apply

Requested due date: _____

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Depth (ft)	EPA ID	BULB ID	Time Sampled start	Time Sampled stop	Flow (ml/min)	Date sampled	Sample matrix	Containers: # and type	Isopropyl Alcohol Leak Check	GCMS: 8260B mod. LARWQCB 23 soil gas	Remarks/Special Instructions
1	BHSV0006S01	3		M4-8	0957	1008	150	3-5-07	SV	125cc Glass Bulb	X	X	
2	BHSV0001F01	—		M4-8	1001	1026	200	"	"	"	—	X	
3	BHSV0008S02	10		M4-1	1025	1038	200	"	"	"	X	X	
4	BHSV0007S02	8		M4-4	1042	1054	180	"	"	"	X	X	
5	BHSV0009S01	5		M4-7	1151	1202	150	"	"	"	X	X	
6	BHSV0009D01	5		M4-3	"	"	"	"	"	"	X	X	
~~7~~	~~BHSV0009S02~~	~~10~~		~~M4-5~~	~~1155~~	~~1208~~	~~150~~	~~"~~	~~"~~	~~"~~	~~X~~	~~X~~	~~HOLD for S01~~

	Date:	Time:
1) Relinquished by: (Sampler's Signature) Chris Nemson	3/5/07	1350
2) Received by:		
3) Relinquished by:		
4) Received by:		
5) Relinquished by:		
6) Received for Laboratory by:	3/5/07	1350

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
- Samples chilled? ☐ Yes ☐ No ☒ From Field
- Custody seals? ☐ Yes ☒ No
- All sample containers intact? ☒ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal

Laboratory Notes:

Sample Locator No.

VOCs

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

MY-517

PROJECT Rocketdyne RFI Sampling CLIENT Boeing SSFL DATE 8/28/03

SAMPLE ID-Depth(ft)		EPA ID	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	Leak Check	MISC
BLSV07 ~~502~~ S01	6' ~~14'~~	MV205	8/6/3	8/28/3	X6	150	725-738		IPA	
BLSV07 ~~S01~~ D01	6' ~~4~~	MV206	8/6/3		H8		739-752			
BLSV07S02	12'	MV207	8/6/3		G7		754-809			
BLSV07D02	12'	MV208	8/6/3		X19		809-822			
BLSV13S02	10'	MV209	8/7/3		X16		822-834			
BLSV13D02	10'	MV210	8/7/3		W1		834-847			
BLSV12S01	4'	MV211	8/7/3		X6		855-907			
BLSV12D01	4'	MV212	8/7/3		G7		907-921			
BLSV12S02	8'	MV213	8/7/3		H8		923-~~952~~ 937			
BLSV12D02	8'	MV214	8/7/3		X19		937-952			
BLSV18S01	3'	MV215	8/7/3		X16		1000-1011			
A1SV07S01	5'	MV216	8/11/3		W1		1131-1142			
A1SV07S02	10'	MV217			X6		1200-1214			
A1SV07S03	15	MV218			G7		1217-1231			
A1SV07S04	20'	MV219			H8		1232-1249			

SURROGATES: D6-Benzene X D8-Toluene ____ D-Chloroform X D6-DMK ____ D-DCM X

RELINQUISHED BY: Thomas Smith RECEIVED BY [signature] DATE/TIME 8/28/3

RELINQUISHED BY ____ RECEIVED BY ____ DATE/TIME ____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)823-6661

VOCs

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

M4-516

PROJECT Rocketdyne RFI Sampling CLIENT Boeing SSFL DATE 8/27/03

SAMPLE ID-Depth(ft)	EPA ID	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	Leak Check	MISC
BLSV11S02 8'	MV ~~168~~ 180	8/7/3	8/27/3	H8	150	740-752		IPA	
BLSV15S01 5'	MV ~~169~~ 181			W1		800-809			
BLSV15S02 10'	MV ~~170~~ 182			G7		856-908			
BLSV10S01 6'	MV ~~171~~ 183			X1		910-918			
BLSV16S01 6'	MV ~~172~~ 184	8/27/3		W1		929 939			
BLSV17S01 5'	MV173 185			H8		942-952			
BLSV17S02 9'	MV174 186			X6		1000-1011			
BLSV14S01 5'	MV175 187			X16		1015-1024			
BLSV14S02 14'	MV188			G7		1027-1038			
BLSV13S01 5'	MV189			X19		1041-1055			

SURROGATES: D6-Benzene X D8-Toluene ____ D-Chloroform X D6-DMK ____ D-DCM X

RELINQUISHED BY: Thomas Smith RECEIVED BY [signature] DATE/TIME 8/27/3

RELINQUISHED BY ____ RECEIVED BY ____ DATE/TIME ____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)823-6661

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

M4-515

PROJECT Bose Landfill VOC's CLIENT Boeing DATE 8/26/03

	SAMPLE ID-Depth(ft)	EPA	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	Leak Check	MISC
1	BLSV03#S01 4'	MV157	8/6/03	8/26/03	X19	150	0858-0909		IPA ~~Methane~~	~~0847~~
2	BLSV03S02 8'	MV158	8/6/03		X16		0913-0928		IPA	
3	BLSV08S01 5'	MV159	8/6/03		X6		0933-0945		IPA	
4	BLSV08S02 10'	MV160	8/6/03		H8		0950 1003		IPA	
5	BLSV08S03 15'	MV161	8/6/03		W1		1010-1025		IPA	
6	BLSV09S01 6'	MV162	8/6/03		G7		1045-1057		IPA	
7	BLSV09S02 12'	MV163	8/6/03		X19		1120-1134		IPA	
8	BLSV02S01 5'	MV164	8/6/03		X6		1145-1157		IPA	
9	BLSV02S02 10'	MV165	8/6/03		X16		1203-1216		IPA	
10	BLSV02S03 15'	MV166	8/6/03		W1		1305-1320		IPA	
11	BLSV11S01 4'	MV167	8/7/03		H8		1335-1346		IPA	

SURROGATES: D6-Benzene X *D8-Toluene* ____ *D-Chloroform* X *D6-DMK* ____ *D-DCM* X

RELINQUISHED BY: X [signature] **RECEIVED BY** [signature] **DATE/TIME** 8/26/3 1400

RELINQUISHED BY ____ **RECEIVED BY** ____ **DATE/TIME** ____

HydroGeoSpectrum Inc, POB 91740, LA. CA 90009 Phone(310)823-6661

VOCs

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

M4-514

PROJECT Rocketdyne RFI Sampling CLIENT Boeing SSFL DATE 8/25/3

	SAMPLE ID-Depth(ft)	EPA ID	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	MISC Leak Check
1	BLSV01S04 20'	MV134	8/6/3	8/25/3	X6	150	923 944		IPA
2	BLSV01S05 26'	MV135			H8		946 1003		
3	BLSV04S01 3'	MV136			W1		1005-1015		
4	BLSV06S01 4'	MV137			G7		1030-1040		
5	BLSV05S01 4'	MV138			X19		1135-1145		
6	BLSV06S02 8'	MV139			X16		1215-1245		
7	BLSV05S02 9'	MV140			W1		1147-1200		
8	BLSV04S01 5'	MV141			X6		1312-1320		
9	BLSV04S02 10'	MV142			H8		1323-1334		
0	BLSV04S03 15'	MV143			X16		1409-1421		

SURROGATES: D6-Benzene X *D8-Toluene* ____ *D-Chloroform* X *D6-DMK* ____ *D-DCM* X

RELINQUISHED BY: Thomas Smith **RECEIVED BY** [signature] **DATE/TIME** 8/25/3

RELINQUISHED BY ____ **RECEIVED BY** ____ **DATE/TIME** ____

HydroGeoSpectrum Inc, POB 91740, LA. CA 90009 Phone(310)823-6661

VOCs

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

M4-513

PROJECT Rocketdyne RFI Sampling CLIENT Boeing SSFL DATE 8.22.03

SAMPLE ID-Depth(ft) EPA ID	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	MISC Leak Check
BL SV01S01- 5' MV130	8.6.03	8.22.03	X19	150	1057-1107	1500	
BL SV01S02- 10' MV131	8.6.03	8.22.03	X16		1114-1124	1500	
BL SV01S03- 15' MV132	8.6.03	8.22.03	H8		1231-1244	1950	
BL SV01S04- 20' MV133	8.6.03	8.22.03	X6		1246-1301	2250	

SURROGATES: D6-Benzene X D8-Toluene ____ D-Chloroform X D6-DMK ____ D-DCM X

RELINQUISHED BY: Thomas Smith RECEIVED BY [signature] DATE/TIME 8/22/03

RELINQUISHED BY ____ RECEIVED BY ____ DATE/TIME ____

HydroGeoSpectrum Inc, POB 91740, LA. CA 90009 Phone(310)823-6661

Methane

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

CENTRUM 229926

PROJECT Rocketdyne RFI Sampling CLIENT Boeing SSFL DATE 8/28/3

	SAMPLE ID-Depth(ft)		EPA ID	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	Leak Check	MISC
1	BLSV10D01	6'	MV220	8/6/3	8/28/3	Tedlar Bag	—	1015	—		
2	BLSV16D01	6'	MV221	8/7/3				1020			
3	BLSV17D01	5'	MV222	8/7/3				1040			
4	BLSV17D02	9'	MV223	8/7/3				1045			
5	A1SV07S01	5'	MV224	8/11/3				1110			
6	A1SV07S02	10'	MV225	8/11/3				1114			
7	A1SV07S04	20'	MV226	8/11/3				1125			
8	A1SV01S01	5'	MV227	8/7/3				1300			
9	A1SV01S02	10'	MV228					1305			
10	A1SV01S03	15'	MV229					1315			
11	A1SV01S04	20'	MV230					1320			
12	A1SV04S01	5'	MV231					1345			
13	A1SV04S02	10'	MV232					1354			
14	A1SV04S03	15'	MV233					1359			
15	A1SV04S04	20'	MV234					1405			
16	A1SV06S01	5'	MV235	8/11/3				1410			

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____ unchilled & intact Tedlars

RELINQUISHED BY: Thomas Smith RECEIVED BY [signature] DATE/TIME 8/28/3

RELINQUISHED BY____ RECEIVED BY____ DATE/TIME____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)823-6661

Methane

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

CENTRUM 22996

PROJECT Rocketdyne RFI Sampling CLIENT Boeing SSFL DATE 8/28/3

SAMPLE ID-Depth(ft) EPA ID	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	Leak Check	MISC
7A1SV07S03 15 mv236	8/11/3	8/28/3	tedlar	—	1119	—		

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____ unspilled & intact (tedlar)

RELINQUISHED BY: Thomas Smith RECEIVED BY [signature] DATE/TIME 8/28/03

RELINQUISHED BY____ RECEIVED BY____ DATE/TIME____

HydroGeoSpectrum Inc, POB 49259, LA. CA 90049 Phone(310)823-6661

Methane

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

CENTRUM 22989

PROJECT Rocketdyne RFI Sampling CLIENT Boeing SSFL DATE 8/27/3

SAMPLE ID-Depth(ft)	EPA ID	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	MISC Leak Check
BLSV15S01 5'	MV 190	8/7/3	8/27/3	Tedlar BAO	—	755	—	
BLSV15S02 10'	MV 191					814		
BLSV10S01 6'	MV 192					900		
BLSV14S01 5'	MV 193					1014		
BLSV14S02 10'	MV 194					1017		
BLSV16S01 9'	MV 195					915		
BLSV17S01 5'	MV 196					920		
BLSV17S02 9'	MV 197					940		
BLSV13S01 5'	MV 198					1038		
BLSV13S02 10'	MV 199					1040		
BLSV12S01 4'	MV 200					1050		
BLSV12S02 8'	MV 201					1056		
BLSV18S01 3'	MV 202					1100		
BLSV07S01 4'	MV 203					1110		
BLSV07S02 12'	MV 204					1116		

* Hardcopy goes to MWH-SD Attn: Tom Burton Fax pre-lims to Glenn Gaffe at Pasadena office

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____ unshelled + ~~intact~~ tedlars

RELINQUISHED BY: X Thomas Smith RECEIVED BY [signature] DATE/TIME 8/27/3

RELINQUISHED BY____ RECEIVED BY____ DATE/TIME____

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

CENTRUM: 22977

PROJECT Bosb Landfill Methane CLIENT Boeing DATE 8/26/03

SAMPLE ID-Depth(ft)	EPA ID	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	MISC Leak Check
BLSV03S01 4'	MV168	8/6/03	8/26/03	—	—	0847	—	
BLSV03S02 8'	MV169			—	—	0915	—	
BLSV085Ø1 5'	MV170			—	—	0933	—	
BLSV085Ø2 10'	MV171			—	—	0948	—	
BLSV085Ø3 15'	MV172			—	—	1008	—	
BLSV095Ø1 6'	MV173			—	—	1030	—	
BLSV095Ø2 12'	MV174			—	—	1105	—	
BLSV025Ø1 5'	MV175			—	—	1122	—	
BLSV025Ø2 10'	MV176			—	—	1200	—	
BLSV02 5Ø3 15'	MV177	8/6/03		—	—	1303	—	
BLSV115Ø1 4'	MV178	8/7/03		—	—	1330	—	
BLSV115Ø2 8'	MV179			—	—	1348	—	

*Hardcopy goes to Tom Burton @ MWH-SD. Pre-lims faxed to Glenn Gaffe @ Pasadena

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____ unanilled & intact tedlars

RELINQUISHED BY: [signature] RECEIVED BY [signature] DATE/TIME 8/26/3 1400

RELINQUISHED BY____ RECEIVED BY____ DATE/TIME____

Methane

HydroGeoSpectrum SOIL VAPOR CHAIN OF CUSTODY

CENTRUM 22959

PROJECT Rocketdyne RFI Sampling CLIENT Boeing SSFL DATE 8/25/3

SAMPLE ID-Depth(ft)	EPA ID	INSTALLED	SAMPLED	BULB ID	FLOW ml/min	TIME min	Purge Vol	MISC Leak Check
BLSV01S01 5'	MV144	8/6/3	8/25/3	NA		830		IPA
BLSV01S02 10'	MV145					845		
BLSV01S03 15'	MV146					850		
BLSV01S04 20'	MV147					855		
BLSV01S05 26'	MV148					900		
BLSV20S01 3'	MV149					955		
BLSV05S01 4'	MV150					1030		
BLSV05S02 9'	MV151					1040		
BLSV06S01 4'	MV152					1025		
BLSV06S02 8'	MV153					1110		
BLSV04S01 5'	MV154					1305		
BLSV04S02 10'	MV155					1310		
BLSV04S03 15'	MV156					1315		

*Hard copy goes to MWH-SD to Tom Burton Prelims to Glenn Gaffe at Pasadena.

SURROGATES: D6-Benzene____ D8-Toluene____ D-Chloroform____ D6-DMK____ D-DCM____ unchilled + intact Tedlars

RELINQUISHED BY: Thomas Smith RECEIVED BY [signature] DATE/TIME 8/25/3

RELINQUISHED BY____ RECEIVED BY____ DATE/TIME____

HydroGeoSpectrum Inc, POB 91740, LA. CA 90009 Phone(310)823-6661

P **P**

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DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Volatiles by 8260B
QC Level: V[1]
SDG: M4-513
Matrix: Soil Vapor
No. of Samples: 4
Date Reviewed: January 12, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV130, MV131, MV132, MV133

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed and dated by field and mobile laboratory personnel and accounted for all samples in this SDG. There was an uninitialed correction to the MWH ID of sample MV131. According to the COC and the instrument run log, the eight-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	Five method blanks were analyzed this SDG. Methylene chloride and chloroform were reported in the method blank analyzed on 08/22/03 at 13:33.	As methylene chloride and chloroform were not reported in any of the associated site samples, no qualifications were required.
6. Surrogates	For sample MV133, surrogates d-methylene chloride, d-chloroform, and d-benzene were recovered below the control limit. All remaining surrogate recoveries were within the control limits of 70-130%.	MV133 was resampled on 8/25/03 and reported as MV134 (in SDG M$-514); therefore, all results for sample MV133 were rejected, "R," in favor of the results reported for MV134.

	Findings	Qualifications
7. Calibration	The BFB tune was acceptable and all samples were analyzed within 12 hours of the BFB tune. The %RSDs for the initial calibration were all less than the control limit of 20%, or 30% where applicable. No opening CCV was analyzed. As no target compounds were detected in any of the site samples, the last sample analyzed should have been a CCV at the reporting limit, as per the *Interim Guidance for Active Soil Gas Investigations* (Los Angeles Regional Water Quality Control Board, 2/97). The laboratory analyzed only a mid-point CCV. The %Ds for the CCV were all less than the control limits of 15%, or 25% where applicable.	As the data was considered to be technically sound, no qualifications were required.
10. Other	There were no field QC samples or field duplicate samples associated with the samples in this SDG.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED			08/22/03	08/22/03		08/22/03		08/22/03		08/22/03	
ANALYTICAL BATCH			082203M4V964	082203M4V964		082203M4V964		082203M4V964		082203M4V964	
LAB SAMPLE I.D.			Amb. Blank	M4-513-01		M4-513-02		M4-513-03		M4-513-04	
CLIENT SAMPLE I.D.			NA	BLSV01S01		BLSV01S02		BLSV01S03		BLSV01S04*	
DEPTH			NA	5'		10'		15'		20'	
EPA ID			NA	MV130		MV131		MV132		MV133	
DILUTION FACTOR			1	1		1		1		1	
COMPOUND		**CRDL**			Rev Qual		Rev Qual		Rev Qual		Rev Qual Code
Benzene		1.0	ND	ND	U	ND	U	ND	U	ND	R D
Carbon tetrachloride		1.0	ND	ND		ND		ND		ND	
Chloroethane		1.0	ND	ND		ND		ND		ND	
Chloroform		1.0	ND	ND		ND		ND		ND	
Dichlorodifluoromethane		1.0	ND	ND		ND		ND		ND	
1,1-Dichloroethane		1.0	ND	ND		ND		ND		ND	
1,2-Dichloroethane		1.0	ND	ND		ND		ND		ND	
1,1-Dichloroethene		1.0	ND	ND		ND		ND		ND	
cis-1,2-Dichloroethene		1.0	ND	ND		ND		ND		ND	
trans-1,2-Dichloroethene		1.0	ND	ND		ND		ND		ND	
Ethylbenzene		1.0	ND	ND		ND		ND		ND	
Methylene chloride		10	ND	ND		ND		ND		ND	
1,1,1,2-Tetrachloroethane		1.0	ND	ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane		2.0	ND	ND		ND		ND		ND	
Tetrachloroethene		1.0	ND	ND		ND		ND		ND	
Toluene		1.0	ND	ND		ND		ND		ND	
1,1,1-Trichloroethane		1.0	ND	ND		ND		ND		ND	
1,1,2-Trichloroethane		1.0	ND	ND		ND		ND		ND	
Trichloroethene		1.0	ND	ND		ND		ND		ND	
Trichlorofluoromethane		1.0	ND	ND		ND		ND		ND	
Trichlorotrifluoroethane		5.0	ND	ND		ND		ND		ND	
Vinyl chloride		1.0	ND	ND		ND		ND		ND	
Xylenes, m-,p-		2.0	ND	ND		ND		ND		ND	
Xylene, o-		1.0	ND	ND		ND		ND		ND	
SURROGATE	**SPK CONC**	**ACP%**	**%RC**	**%RC**		**%RC**		**%RC**		**%RC**	
d-Methylene Chloride	50	70-130	105	82		77		89		11	
d-Chloroform	50	70-130	103	101		81		91		35	
d-Benzene	50	70-130	102	104		81		89		19	
Dibromofluoromethane	50	70-130	98	97		96		100		97	
Toluene-d8	50	70-130	95	99		98		100		96	
Bromofluorobenzene	50	70-130	95	99		96		96		101	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

*This sample was resampled on 08/25/03 due to the low surrogate recovery.

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DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Volatiles by 8260B
QC Level: V[1]
SDG: M4-514
Matrix: Soil Vapor
No. of Samples: 10
Date Reviewed: January 12, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV134, MV135, MV136, MV137, MV138, MV139, MV140, MV141, MV142, MV143

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed and dated by field and mobile laboratory personnel and accounted for all samples in this SDG. According to the COC and the instrument run log, the eight-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	Eight method blanks were analyzed in this SDG. Chloroform was reported in the method blank analyzed on 08/25/03 at 18:03 and 1,1,2-trichloroethane was reported in the method blank analyzed on 08/25/03 at 19:22.	As neither chloroform nor 1,1,2-trichloroethane were reported in any of the associated site samples, no qualifications were required.
6. Surrogates	All site sample surrogate recoveries were within the control limits of 70-130%.	No qualifications were required.
7. Calibration	The BFB tune was acceptable and all samples were analyzed within 12 hours of the BFB tune. The %RSDs for the initial calibration were all less than the control limit of 20%, or 30% where applicable.	No qualifications were required.

	Findings	Qualifications
7. Calibration (cont.)	The %D for dichlorodifluoromethane exceeded the control limit in the opening calibration verification standard. The remaining %Ds for the opening calibration verification standard were all less than the control limits of 15%, or 25% where applicable. As no target compounds were detected in any of the site samples, the last sample analyzed should have been a CCV at the reporting limit, as per the *Interim Guidance for Active Soil Gas Investigations* (Los Angeles Regional Water Quality Control Board, 2/97). The laboratory analyzed only a mid-point CCV. The %D exceeded the control limit in the CCV for dichlorodifluoro-methane. The remaining %Ds were all less than the control limits of 15%, or 25% where applicable.	All nondetected results for dichlorodifluoromethane were qualified as estimated, "UJ." As the data was considered to be technically sound, no further qualifications were required.
10. Other	There were no field QC samples or field duplicate samples associated with the samples in this SDG.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS

REPORTING UNIT: µg/L of Air

DATE ANALYZED			08/25/03	08/25/03		08/25/03		08/25/03		08/25/03		
ANALYTICAL BATCH			082503M4V965	082503M4V965		082503M4V965		082503M4V965		082503M4V965		
LAB SAMPLE I.D.			Amb. Blank	M4-514-01		M4-514-02		M4-514-03		M4-514-04		
CLIENT SAMPLE I.D.			NA	BLSV01S04		BLSV01S05		BLSV20S01		BLSV06S01		
DEPTH			NA	20'		26'		3'		4'		
EPA ID			NA	MV134		MV135		MV136		MV137		
DILUTION FACTOR			1	1		1		1		1		
COMPOUND		**CRDL**			Raw Qual	Qual Code	Raw Qual	Qual Code	Raw Qual	Qual Code	Raw Qual	Qual Code
Benzene		1.0	ND	ND	U		ND	U	ND	U	ND	U
Carbon tetrachloride		1.0	ND	ND			ND		ND		ND	
Chloroethane		1.0	ND	ND			ND		ND		ND	
Chloroform		1.0	ND	ND			ND		ND		ND	
Dichlorodifluoromethane		1.0	ND	ND	UJ	C	ND	UJ	C ND	UJ	C ND	UJ C
1,1-Dichloroethane		1.0	ND	ND	U		ND	U	ND	U	ND	U
1,2-Dichloroethane		1.0	ND	ND			ND		ND		ND	
1,1-Dichloroethene		1.0	ND	ND			ND		ND		ND	
cis-1,2-Dichloroethene		1.0	ND	ND			ND		ND		ND	
trans-1,2-Dichloroethene		1.0	ND	ND			ND		ND		ND	
Ethylbenzene		1.0	ND	ND			ND		ND		ND	
Methylene chloride		10	ND	ND			ND		ND		ND	
1,1,1,2-Tetrachloroethane		1.0	ND	ND			ND		ND		ND	
1,1,2,2-Tetrachloroethane		2.0	ND	ND			ND		ND		ND	
Tetrachloroethene		1.0	ND	ND			ND		ND		ND	
Toluene		1.0	ND	ND			ND		ND		ND	
1,1,1-Trichloroethane		1.0	ND	ND			ND		ND		ND	
1,1,2-Trichloroethane		1.0	ND	ND			ND		ND		ND	
Trichloroethene		1.0	ND	ND			ND		ND		ND	
Trichlorofluoromethane		1.0	ND	ND			ND		ND		ND	
Trichlorotrifluoroethane		5.0	ND	ND			ND		ND		ND	
Vinyl chloride		1.0	ND	ND			ND		ND		ND	
Xylenes, m-,p-		2.0	ND	ND			ND		ND		ND	
Xylene, o-		1.0	ND	ND			ND		ND		ND	
SURROGATE	**SPK CONC**	**ACP%**	**%RC**	**%RC**			**%RC**		**%RC**		**%RC**	
d-Methylene Chloride	50	70-130	80	84			124		86		74	
d-Chloroform	50	70-130	92	91			116		91		73	
d-Benzene	50	70-130	92	88			107		90		73	
Dibromofluoromethane	50	70-130	99	101			97		98		100	
Toluene-d8	50	70-130	97	98			99		98		98	
Bromofluorobenzene	50	70-130	98	98			98		99		98	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS

REPORTING UNIT: µg/L of Air

DATE ANALYZED			08/25/03			08/25/03			08/25/03			08/25/03			08/25/03			08/25/03					
ANALYTICAL BATCH			082503M4V965			082503M4V965			082503M4V965			082503M4V965			082503M4V965			082503M4V965					
LAB SAMPLE I.D.			M4-514-05			M4-514-06			M4-514-07			M4-514-08			M4-514-09								
CLIENT SAMPLE I.D.			BLSV05S01			BLSV06S02			BLSV05S02			BLSV04S01			BLSV04S02								
DEPTH			4'			8'			9'			5'			10'								
EPA ID			MV138			MV139			MV140			MV141			MV142								
DILUTION FACTOR			1			1			1			1			1								
COMPOUND		**CRDL**		Qual	Qual Code		Qual	Qual Code		Qual	Qual Code		Qual	Qual Code		Qual	Qual Code		Qual	Qual Code		Qual	Qual Code
Benzene		1.0	ND	U		ND	U		ND	U		ND	U		ND	U							
Carbon tetrachloride		1.0	ND			ND			ND			ND			ND								
Chloroethane		1.0	ND			ND			ND			ND			ND								
Chloroform		1.0	ND			ND			ND			ND			ND								
Dichlorodifluoromethane		1.0	ND	UJ	C	ND	UJ	C	ND	UJ	C	ND	UJ	C	ND	UJ	C						
1,1-Dichloroethane		1.0	ND	U		ND	U		ND	U		ND	U		ND	U							
1,2-Dichloroethane		1.0	ND			ND			ND			ND			ND								
1,1-Dichloroethene		1.0	ND			ND			ND			ND			ND								
cis-1,2-Dichloroethene		1.0	ND			ND			ND			ND			ND								
trans-1,2-Dichloroethene		1.0	ND			ND			ND			ND			ND								
Ethylbenzene		1.0	ND			ND			ND			ND			ND								
Methylene chloride		10	ND			ND			ND			ND			ND								
1,1,1,2-Tetrachloroethane		1.0	ND			ND			ND			ND			ND								
1,1,2,2-Tetrachloroethane		2.0	ND			ND			ND			ND			ND								
Tetrachloroethene		1.0	ND			ND			ND			ND			ND								
Toluene		1.0	ND			ND			ND			ND			ND								
1,1,1-Trichloroethane		1.0	ND			ND			ND			ND			ND								
1,1,2-Trichloroethane		1.0	ND			ND			ND			ND			ND								
Trichloroethene		1.0	ND			ND			ND			ND			ND								
Trichlorofluoromethane		1.0	ND			ND			ND			ND			ND								
Trichlorotrifluoroethane		5.0	ND			ND			ND			ND			ND								
Vinyl chloride		1.0	ND			ND			ND			ND			ND								
Xylenes, m-,p-		2.0	ND			ND			ND			ND			ND								
Xylene, o-		1.0	ND			ND			ND			ND			ND								
SURROGATE	**SPK CONC**	**ACP%**	**%RC**			**%RC**			**%RC**			**%RC**			**%RC**								
d-Methylene Chloride	50	70-130	98			98			102			128			109								
d-Chloroform	50	70-130	99			107			104			128			113								
d-Benzene	50	70-130	98			106			103			129			111								
Dibromofluoromethane	50	70-130	100			100			98			99			101								
Toluene-d8	50	70-130	97			99			97			96			98								
Bromofluorobenzene	50	70-130	99			100			98			98			101								

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

LEVEL V

AMEC VALIDATED

Project No: Rocketdyne RFI Sampling

(RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS

REPORTING UNIT: µg/L of Air

DATE ANALYZED			08/25/03				
ANALYTICAL BATCH			082503M4V965				
LAB SAMPLE I.D.			M4-514-10				
CLIENT SAMPLE I.D.			BLSV04S03				
DEPTH			15'				
EPA ID			MV143				
DILUTION FACTOR			1				
COMPOUND		**CRDL**	Qual	Qual Code			
Benzene		1.0	ND	U			
Carbon tetrachloride		1.0	ND				
Chloroethane		1.0	ND				
Chloroform		1.0	ND				
Dichlorodifluoromethane		1.0	ND	UJ	C		
1,1-Dichloroethane		1.0	ND	U			
1,2-Dichloroethane		1.0	ND				
1,1-Dichloroethene		1.0	ND				
cis-1,2-Dichloroethene		1.0	ND				
trans-1,2-Dichloroethene		1.0	ND				
Ethylbenzene		1.0	ND				
Methylene chloride		10	ND				
1,1,1,2-Tetrachloroethane		1.0	ND				
1,1,2,2-Tetrachloroethane		2.0	ND				
Tetrachloroethene		1.0	ND				
Toluene		1.0	ND				
1,1,1-Trichloroethane		1.0	ND				
1,1,2-Trichloroethane		1.0	ND				
Trichloroethene		1.0	ND				
Trichlorofluoromethane		1.0	ND				
Trichlorotrifluoroethane		5.0	ND				
Vinyl chloride		1.0	ND				
Xylenes, m-,p-		2.0	ND				
Xylene, o-		1.0	ND				
SURROGATE	**SPK CONC**	**ACP%**	**%RC**				
d-Methylene Chloride	50	70-130	79				
d-Chloroform	50	70-130	81				
d-Benzene	50	70-130	79				
Dibromofluoromethane	50	70-130	106				
Toluene-d8	50	70-130	99				
Bromofluorobenzene	50	70-130	100				

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

LEVEL V

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DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Volatiles by 8260B
QC Level: V[1]
SDG: M4-515
Matrix: Soil Vapor
No. of Samples: 11
Date Reviewed: January 13, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV157, MV158, MV159, MV160, MV161, MV162, MV163, MV164, MV165, MV166, MV167

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed and dated by field and mobile laboratory personnel and accounted for all samples in this SDG. There was an uninitialed correction to the MWH IDs of samples MV157 and MV162. According to the COC and the instrument run log, the eight-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	Five method blanks were analyzed this SDG. Methylene chloride and chloroform were reported in the method blank analyzed on 08/26/03 at 16:19, and chloroform was reported in the method blank analyzed on 08/26/03 at 16:46.	As methylene chloride and chloroform were not reported in any of the associated site samples, no qualifications were required.
6. Surrogates	All surrogate recoveries were within the control limits of 70-130%.	No qualifications were required.
7. Calibration	The BFB tune was acceptable and all samples were analyzed within 12 hours of the BFB tune. The %RSDs for the initial calibration were all less than the control limit of 20%, or 30% where applicable.	No qualifications were required.

	Findings	Qualifications
7. Calibration (cont.)	The %Ds for dichlorodifluoromethane and tetrachloroethene exceeded the control limits in the opening calibration verification standard. The remaining %Ds for the opening calibration verification standard were all less than the control limits of 15%, or 25% where applicable.	All nondetected results for dichlorodifluoromethane and tetrachloroethene were qualified as estimated, "UJ."
	As no target compounds were detected in any of the site samples, the last sample analyzed should have been a CCV at the reporting limit, as per the *Interim Guidance for Active Soil Gas Investigations* (Los Angeles Regional Water Quality Control Board, 2/97). The laboratory analyzed only a mid-point CCV. The %Ds fordichlorodifluoro-methane exceeded the control limit. All remaining %Ds for the CCV were less than the control limits of 15%, or 25% where applicable.	As the data was considered to be technically sound, no further qualifications were required.
10. Other	Chloroform was originally reported in samples MV166 and MV167. Both of the aforementioned detects were removed by the analyst with an undated and uninitialed notation in the raw data of "ID." Previous telephone conversations with the analyst indicated that the notation "ID," refers to a lack of a spectral match.	No qualifications were required.
	There were no field QC samples or field duplicate samples associated with the samples in this SDG.	
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.

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED		08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	
ANALYTICAL BATCH		082603M4V966	082603M4V966	082603M4V966	082603M4V966	082603M4V966	
LAB SAMPLE I.D.		Amb. Blank	M4-515-01	M4-515-02	M4-515-03	M4-515-04	
CLIENT SAMPLE I.D.		NA	BLSV03S01	BLSV03S02	BLSV08S01	BLSV08S02	
DEPTH		NA	4'	8'	5'	10'	
EPA ID		NA	MV157	MV158	MV159	MV160	
DILUTION FACTOR		1	1	1	1	1	
COMPOUND	**CRDL**		Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code
Benzene	1.0	ND	ND U	ND U	ND U	ND U	
Carbon tetrachloride	1.0	ND	ND	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	ND	ND	
Dichlorodifluoromethane	1.0	ND	ND UJ	c ND UJ	c ND UJ	c ND UJ	c
1,1-Dichloroethane	1.0	ND	ND U	ND U	ND U	ND U	
1,2-Dichloroethane	1.0	ND	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
Ethylbenzene	1.0	ND	ND	ND	ND	ND	
Methylene chloride	10	ND	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	2.0	ND	ND	ND	ND	ND	
Tetrachloroethene	1.0	ND	ND UJ	c ND UJ	c ND UJ	c ND UJ	c
Toluene	1.0	ND	ND U	ND U	ND U	ND U	
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	ND	
Trichloroethene	1.0	ND	ND	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	ND	
Trichlorotrifluoroethane	5.0	ND	ND	ND	ND	ND	
Vinyl chloride	1.0	ND	ND	ND	ND	ND	
Xylenes, m-,p-	2.0	ND	ND	ND	ND	ND	
Xylene, o-	1.0	ND	ND	ND	ND	ND	
SURROGATE	**SPK CONC** / **ACP%**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**	
d-Methylene Chloride	50 / 70-130	106	119	116	92	114	
d-Chloroform	50 / 70-130	103	121	116	88	116	
d-Benzene	50 / 70-130	101	121	119	88	119	
Dibromofluoromethane	50 / 70-130	104	105	105	103	107	
Toluene-d8	50 / 70-130	99	98	101	101	97	
Bromofluorobenzene	50 / 70-130	98	101	100	100	101	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

PM 1/14/04

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED		08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	
ANALYTICAL BATCH		082603M4V966	082603M4V966	082603M4V966	082603M4V966	082603M4V966	
LAB SAMPLE I.D.		M4-515-05	M4-515-06	M4-515-07	M4-515-08	M4-515-09	
CLIENT SAMPLE I.D.		BLSV08S03	BLSV09S01	BLSV09S02	BLSV02S01	BLSV02S02	
DEPTH		15'	6'	12'	5'	10'	
EPA ID		MV161	MV162	MV163	MV164	MV165	
DILUTION FACTOR		1 Raw Qual	1 Raw Qual	1 Raw Qual	1 Raw Qual	1 Raw Qual	Qual Code
COMPOUND	**CRDL**		Code	Code	Code	Code	
Benzene	1.0	ND U	ND U	ND U	ND U	ND U	
Carbon tetrachloride	1.0	ND	ND	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	ND	ND	
Dichlorodifluoromethane	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ	C ND UJ	C
1,1-Dichloroethane	1.0	ND U	ND U	ND U	ND U	ND U	
1,2-Dichloroethane	1.0	ND	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
Ethylbenzene	1.0	ND	ND	ND	ND	ND	
Methylene chloride	10	ND	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	2.0	ND	ND	ND	ND	ND	
Tetrachloroethene	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ	C ND UJ	C
Toluene	1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ	C ND UJ	C
1,1,1-Trichloroethane	1.0	ND U	ND U	ND U	ND U	ND U	
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	ND	
Trichloroethene	1.0	ND	ND	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	ND	
Trichlorotrifluoroethane	5.0	ND	ND	ND	ND	ND	
Vinyl chloride	1.0	ND	ND	ND	ND	ND	
Xylenes, m-,p-	2.0	ND	ND	ND	ND	ND	
Xylene, o-	1.0	ND	ND	ND	ND	ND	
SURROGATE	**SPK CONC** / **ACP%**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**	
d-Methylene Chloride	50 / 70-130	124	115	115	113	118	
d-Chloroform	50 / 70-130	125	116	114	113	116	
d-Benzene	50 / 70-130	123	117	116	116	119	
Dibromofluoromethane	50 / 70-130	103	108	105	106	106	
Toluene-d8	50 / 70-130	96	100	97	98	98	
Bromofluorobenzene	50 / 70-130	101	99	101	100	98	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

LEVEL V

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M 1/14/04

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

		DATE ANALYZED	08/26/03	08/26/03			
		ANALYTICAL BATCH	082603M4V966	082603M4V966			
		LAB SAMPLE I.D.	M4-515-10	M4-515-11			
		CLIENT SAMPLE I.D.	BLSV02S03	BLSV11S01			
		DEPTH	15'	4'			
		EPA ID	MV166	MV167			
		DILUTION FACTOR	1	1			
COMPOUND	**CRDL**		Rev Qual	Qual Code	Rev Qual	Qual Code	
Benzene	1.0		ND U		ND U		
Carbon tetrachloride	1.0		ND		ND		
Chloroethane	1.0		ND		ND		
Chloroform	1.0		ND		ND		
Dichlorodifluoromethane	1.0		ND UJ	C	ND UJ	C	
1,1-Dichloroethane	1.0		ND U		ND U		
1,2-Dichloroethane	1.0		ND		ND		
1,1-Dichloroethene	1.0		ND		ND		
cis-1,2-Dichloroethene	1.0		ND		ND		
trans-1,2-Dichloroethene	1.0		ND		ND		
Ethylbenzene	1.0		ND		ND		
Methylene chloride	10		ND		ND		
1,1,1,2-Tetrachloroethane	1.0		ND		ND		
1,1,2,2-Tetrachloroethane	2.0		ND		ND		
Tetrachloroethene	1.0		ND UJ	C	ND UJ	C	
Toluene	1.0		ND U		ND U		
1,1,1-Trichloroethane	1.0		ND		ND		
1,1,2-Trichloroethane	1.0		ND		ND		
Trichloroethene	1.0		ND		ND		
Trichlorofluoromethane	1.0		ND		ND		
Trichlorotrifluoroethane	5.0		ND		ND		
Vinyl chloride	1.0		ND		ND		
Xylenes, m-,p-	2.0		ND		ND		
Xylene, o-	1.0		ND		ND		
SURROGATE	**SPK CONC**	**ACP%**	**%RC**		**%RC**		
d-Methylene Chloride	50	70-130	111		117		
d-Chloroform	50	70-130	116		118		
d-Benzene	50	70-130	114		119		
Dibromofluoromethane	50	70-130	105		105		
Toluene-d8	50	70-130	99		97		
Bromofluorobenzene	50	70-130	101		99		

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

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DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Volatiles by 8260B
QC Level: V[1]
SDG: M4-516
Matrix: Soil Vapor
No. of Samples: 10
Date Reviewed: January 13, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV180, MV181, MV182, MV183, MV184, MV185, MV186, MV187, MV188, MV189

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed and dated by field and mobile laboratory personnel and accounted for all samples in this SDG. The EPA IDs were hand-corrected on the COC for all samples except MV188 and MV189. According to the COC and the instrument run log, the eight-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	Two method blanks were analyzed this SDG. Methylene chloride and chloroform were reported in the method blank analyzed on 08/27/03 at 07:43.	As methylene chloride and chloroform were not reported in any of the associated site samples, no qualifications were required.
6. Surrogates	All surrogate recoveries were within the control limits of 70-130%.	No qualifications were required.
7. Calibration	The BFB tune was acceptable and all samples were analyzed within 12 hours of the BFB tune. The %RSDs for the initial calibrations were all less than the control limit of 20%, or 30% where applicable.	

	Findings	Qualifications
7. Calibration (cont.)	The %Ds for dichlorodifluoromethane and tetrachloroethene exceeded the control limits in the opening calibration verification standard. The remaining %Ds for the opening calibration verification standard were all less than the control limits of 15%, or 25% where applicable. As no target compounds were detected in any of the site samples, the last sample analyzed should have been a CCV at the reporting limit, as per the *Interim Guidance for Active Soil Gas Investigations* (Los Angeles Regional Water Quality Control Board, 2/97). The laboratory analyzed only a mid-point CCV. The %Ds for dichlorodifluoro-methane and tetrachloroethene exceeded the control limits. The remaining %Ds for the CCV were all less than the control limits of 15%, or 25% where applicable.	All nondetected results for dichlorodifluoromethane and tetrachloroethene were qualified as estimated, "UJ." As the data was considered to be technically sound, no qualifications were required.
10. Other	There were no field QC samples or field duplicate samples associated with the samples in this SDG.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Project No: Rocketdyne RFI Sampling

(RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS

REPORTING UNIT: µg/L of Air

		DATE ANALYZED	08/27/03	08/27/03	08/27/03	08/27/03	08/27/03
		ANALYTICAL BATCH	082703M4V967	082703M4V967	082703M4V967	082703M4V967	082703M4V967
		LAB SAMPLE I.D.	Amb. Blank	M4-516-01	M4-516-02	M4-516-03	M4-516-04
		CLIENT SAMPLE I.D.	NA	BLSV11S02	BLSV15S01	BLSV15S02	BLSV10S01
		DEPTH	NA	8'	5'	10'	6'
		EPA ID	NA	MV180	MV181	MV182	MV183
		DILUTION FACTOR	1	1	1	1	1
COMPOUND	**CRDL**			Qual Code	Qual Code	Qual Code	Qual Code
Benzene	1.0	ND X	ND U	ND U	ND U	ND U	ND U
Carbon tetrachloride	1.0	ND	ND	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	1.0	ND UJ	ND UJ C	ND UJ C	ND UJ C	ND UJ C	ND UJ C
1,1-Dichloroethane	1.0	ND	ND U	ND U	ND U	ND U	ND U
1,2-Dichloroethane	1.0	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND	ND	ND
Methylene chloride	10	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	2.0	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.0	ND	ND UJ C	ND UJ C	ND UJ C	ND UJ C	ND UJ C
Toluene	1.0	ND	ND U	ND U	ND U	ND U	ND U
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	1.0	ND	ND	ND	ND	ND	ND
Trichlorotrifluoroethane	5.0	ND	ND	ND	ND	ND	ND
Vinyl chloride	1.0	ND	ND	ND	ND	ND	ND
Xylenes, m-,p-	2.0	ND	ND	ND	ND	ND	ND
Xylene, o-	1.0	ND	ND	ND	ND	ND	ND
SURROGATE	**SPK CONC** / **ACP%**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**
d-Methylene Chloride	50 / 70-130	83	117	90	111	89	
d-Chloroform	50 / 70-130	90	122	94	108	95	
d-Benzene	50 / 70-130	94	129	98	107	97	
Dibromofluoromethane	50 / 70-130	103	103	105	105	105	
Toluene-d8	50 / 70-130	96	98	98	98	96	
Bromofluorobenzene	50 / 70-130	98	97	100	98	98	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

X Analysis not validated
DM 1/14/03

LEVEL V

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Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS

REPORTING UNIT: µg/L of Air

DATE ANALYZED			08/27/03	08/27/03	08/27/03	08/27/03	08/27/03
ANALYTICAL BATCH			082703M4V967	082703M4V967	082703M4V967	082703M4V967	082703M4V967
LAB SAMPLE I.D.			M4-516-05	M4-516-06	M4-516-07	M4-516-08	M4-516-09
CLIENT SAMPLE I.D.			BLSV16S01	BLSV17S01	BLSV17S02	BLSV14S01	BLSV14S02
DEPTH			6'	5'	9'	5'	14'
EPA ID			MV184	MV185	MV186	MV187	MV188
DILUTION FACTOR			1	1	1	1	1
COMPOUND		**CRDL**	Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual Qual Code
Benzene		1.0	ND U	ND U	ND U	U ND U	ND U
Carbon tetrachloride		1.0	ND	ND	ND	ND	ND
Chloroethane		1.0	ND	ND	ND	ND	ND
Chloroform		1.0	ND	ND	ND	ND	ND
Dichlorodifluoromethane		1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ	C ND UJ C
1,1-Dichloroethane		1.0	ND U	ND U	ND U	ND U	ND U
1,2-Dichloroethane		1.0	ND	ND	ND	ND	ND
1,1-Dichloroethene		1.0	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene		1.0	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene		1.0	ND	ND	ND	ND	ND
Ethylbenzene		1.0	ND	ND	ND	ND	ND
Methylene chloride		10	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane		1.0	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		2.0	ND	ND	ND	ND	ND
Tetrachloroethene		1.0	ND UJ	C ND UJ	C ND UJ	C ND UJ	C ND UJ C
Toluene		1.0	ND U	ND U	ND U	ND U	ND U
1,1,1-Trichloroethane		1.0	ND	ND	ND	ND	ND
1,1,2-Trichloroethane		1.0	ND	ND	ND	ND	ND
Trichloroethene		1.0	ND	ND	ND	ND	ND
Trichlorofluoromethane		1.0	ND	ND	ND	ND	ND
Trichlorotrifluoroethane		5.0	ND	ND	ND	ND	ND
Vinyl chloride		1.0	ND	ND	ND	ND	ND
Xylenes, m-,p-		2.0	ND	ND	ND	ND	ND
Xylene, o-		1.0	ND	ND	ND	ND	ND
SURROGATE	**SPK CONC**	**ACP%**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**
d-Methylene Chloride	50	70-130	87	89	90	88	93
d-Chloroform	50	70-130	90	93	92	91	96
d-Benzene	50	70-130	94	95	95	92	97
Dibromofluoromethane	50	70-130	104	106	105	103	103
Toluene-d8	50	70-130	96	99	101	96	98
Bromofluorobenzene	50	70-130	100	97	98	99	96

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

LEVEL V AMEC VALIDATED

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED		08/27/03					
ANALYTICAL BATCH		082703M4V967					
LAB SAMPLE I.D.		M4-516-10					
CLIENT SAMPLE I.D.		BLSV13S01					
DEPTH		5'					
EPA ID		MV189					
DILUTION FACTOR		1	Rev Qual	Qual Code			
COMPOUND	**CRDL**						
Benzene	1.0	ND	U				
Carbon tetrachloride	1.0	ND					
Chloroethane	1.0	ND					
Chloroform	1.0	ND					
Dichlorodifluoromethane	1.0	ND	UJ	C			
1,1-Dichloroethane	1.0	ND	U				
1,2-Dichloroethane	1.0	ND					
1,1-Dichloroethene	1.0	ND					
cis-1,2-Dichloroethene	1.0	ND					
trans-1,2-Dichloroethene	1.0	ND					
Ethylbenzene	1.0	ND					
Methylene chloride	10	ND					
1,1,1,2-Tetrachloroethane	1.0	ND					
1,1,2,2-Tetrachloroethane	2.0	ND					
Tetrachloroethene	1.0	ND	UJ	C			
Toluene	1.0	ND	U				
1,1,1-Trichloroethane	1.0	ND					
1,1,2-Trichloroethane	1.0	ND					
Trichloroethene	1.0	ND					
Trichlorofluoromethane	1.0	ND					
Trichlorotrifluoroethane	5.0	ND					
Vinyl chloride	1.0	ND					
Xylenes, m-,p-	2.0	ND					
Xylene, o-	1.0	ND					
SURROGATE	**SPK CONC**	**ACP%**	**%RC**				
d-Methylene Chloride	50	70-130	94				
d-Chloroform	50	70-130	93				
d-Benzene	50	70-130	97				
Dibromofluoromethane	50	70-130	108				
Toluene-d8	50	70-130	100				
Bromofluorobenzene	50	70-130	100				

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

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LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Methane by 8015B
QC Level: V[1]
SDG: 22959
Matrix: Soil Vapor
No. of Samples: 13
Date Reviewed: January 14, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV144, MV145, MV146, MV147, MV148, MV149, MV150, MV151, MV152, MV153, MV154, MV155, MV156

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed and dated by field and mobile laboratory personnel and accounted for all samples in this SDG. According to the COC and the instrument run log, the 24-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	One method blank and one bracketing CCB were analyzed this SDG. Methane was not reported in either the method blank or the CCB.	No qualifications were required.
6. Surrogates	Surrogates were not used in the analysis.	No qualifications were required.
7. Calibration	Three bracketing CCVs were analyzed with the samples in this SDG. The %Ds for methane were all less than the control limit of 15%.	No qualifications were required.
10. Other	There were no field QC samples associated with the samples in this SDG.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	
ANALYTICAL BATCH		082603GC2V262	082603GC2V262	082603GC2V262	082603GC2V262	082603GC2V262	
LAB SAMPLE I.D.		Amb. Blank	22959-1	22959-2	22959-3	22959-4	
CLIENT SAMPLE I.D.		NA	BLSV01S01	BLSV01S02	BLSV01S03	BLSV01S04	
DEPTH		NA	5'	10'	15'	20'	
EPA ID		NA	MV144	MV145	MV146	MV147	
DILUTION FACTOR		1	1	1	1	1	
COMPOUND	**CRDL**						
			Qual Code	Qual Code	Qual Code	Qual Code	Qual Code
Methane	9.8	ND	ND U	ND U	ND U	ND U	

AMEC VALIDATED
LEVEL V

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/26/03		08/26/03		08/26/03		08/26/03		08/26/03	
ANALYTICAL BATCH		082603GC2V262		082603GC2V262		082603GC2V262		082603GC2V262		082603GC2V262	
LAB SAMPLE I.D.		22959-5		22959-6		22959-7		22959-8		22959-9	
CLIENT SAMPLE I.D.		BLSV01S05		BLSV20S01		BLSV05S01		BLSV05S02		BLSV06S01	
DEPTH		26'		3'		4'		9'		4'	
EPA ID		MV148		MV149		MV150		MV151		MV152	
DILUTION FACTOR		1		1		1		1		1	
COMPOUND	**CRDL**		Qual Code		Qual Code		Qual Code		Qual Code		Qual Code
			Qual		Qual		Qual		Qual		Qual
Methane	9.8	ND	U	ND	U	ND	U	ND	U	ND	U

AMEC VALIDATED

LEVEL V

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/26/03	08/26/03	08/26/03	08/26/03	
ANALYTICAL BATCH		082603GC2V262	082603GC2V262	082603GC2V262	082603GC2V262	
LAB SAMPLE I.D.		22959-10	22959-11	22959-12	22959-13	
CLIENT SAMPLE I.D.		BLSV06S02	BLSV04S01	BLSV04S02	BLSV04S03	
DEPTH		8'	5'	10'	15'	
EPA ID		MV153	MV154	MV155	MV156	
DILUTION FACTOR		1	1	1	1	
COMPOUND	**CRDL**					
		Qual Code	Qual Code	Qual Code	Qual Code	Qual Code
Methane	9.8	ND U	ND U	ND U	ND U	

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LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Methane by 8015B
QC Level: V[1]
SDG: 22977
Matrix: Soil Vapor
No. of Samples: 12
Date Reviewed: January 14, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV168, MV169, MV170, MV171, MV172, MV173, MV174, MV175, MV176, MV177, MV178, MV179

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed and dated by field and mobile laboratory personnel and accounted for all samples in this SDG. According to the COC and the instrument run log, the 24-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	One method blank and one bracketing CCB were analyzed this SDG. Methane was not reported in either the method blank or the CCB.	No qualifications were required.
6. Surrogates	Surrogates were not used in the analysis.	No qualifications were required.
7. Calibration	Three bracketing CCVs were analyzed with the samples in this SDG. The %Ds for methane were all less than the control limit of 15%.	No qualifications were required.
10. Other	There were no field QC samples associated with the samples in this SDG.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Project No./Name: BO5b Landfill Methane

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/27/03	08/27/03	08/27/03	08/27/03	08/27/03
ANALYTICAL BATCH		082703GC2V264	082703GC2V264	082703GC2V264	082703GC2V264	082703GC2V264
LAB SAMPLE I.D.		Amb. Blank	22977-1	22977-2	22977-3	22977-4
CLIENT SAMPLE I.D.		NA	BLSV03S01	BLSV03S02	BLSV08SØ1	BLSV08SØ2
DEPTH		NA	4'	8'	5'	10'
EPA ID		NA	MV168	MV169	MV170	MV171
DILUTION FACTOR		1	1	1	1	1
COMPOUND	**CRDL**					
			Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual Qual Code
Methane	9.8	ND	ND U	ND U	ND U	ND U

AMEC VALIDATED

LEVEL V

Project No./Name: BO5b Landfill Methane

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/27/03	08/27/03	08/27/03	08/27/03	08/27/03
ANALYTICAL BATCH		082703GC2V264	082703GC2V264	082703GC2V264	082703GC2V264	082703GC2V264
LAB SAMPLE I.D.		22977-5	22977-6	22977-7	22977-8	22977-9
CLIENT SAMPLE I.D.		BLSV08SØ3	BLSV09SØ1	BLSV09SØ2	BLSV02SØ1	BLSV02SØ2
DEPTH		15'	6'	12'	5'	10'
EPA ID		MV172	MV173	MV174	MV175	MV176
DILUTION FACTOR		1	1	1	1	1
COMPOUND	**CRDL**					
		Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual Qual Code
Methane	9.8	ND U	ND U	ND U	ND U	ND U

AMEC VALIDATED
LEVEL V

Project No./Name: BO5b Landfill Methane

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/27/03	08/27/03	08/27/03		
ANALYTICAL BATCH		082703GC2V264	082703GC2V264	082703GC2V264		
LAB SAMPLE I.D.		22977-10	22977-11	22977-12		
CLIENT SAMPLE I.D.		BLSV02SØ3	BLSV11SØ1	BLSV11SØ2		
DEPTH		15'	4'	8'		
EPA ID		MV177	MV178	MV179		
DILUTION FACTOR		1	1	1		
COMPOUND	**CRDL**					
		Res Qual	Qual Code Res Qual	Qual Code Res Qual	Qual Code	
Methane	9.8	ND U	ND U	ND U		

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LEVEL V

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303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Methane by 8015B
QC Level: V[1]
SDG: 22989
Matrix: Soil Vapor
No. of Samples: 15
Date Reviewed: January 14, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV904, MV191, MV192, MV193, MV194, MV195, MV196, MV197, MV198, MV199, MV200, MV201, MV202, MV203, MV204

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed and dated by field and mobile laboratory personnel and accounted for all samples in this SDG. According to the COC and the instrument run log, the 24-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	One method blank and one bracketing CCB were analyzed this SDG. Methane was not reported in either the method blank or the CCB.	No qualifications were required.
6. Surrogates	Surrogates were not used in the analysis.	No qualifications were required.
7. Calibration	Three bracketing CCVs were analyzed with the samples in this SDG. The %Ds for methane were all less than the control limit of 15%.	No qualifications were required.
10. Other	There were no field QC samples associated with the samples in this SDG. Duplicate analyses were performed for sample MV193. The RPD was 4% and was considered acceptable.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrumen t output is performed.

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/28/03	08/28/03	08/28/03	08/28/03	08/28/03
ANALYTICAL BATCH		082803GC2V265	082803GC2V265	082803GC2V265	082803GC2V265	082803GC2V265
LAB SAMPLE I.D.		Amb. Blank	22989-1	22989-2	22989-3	22989-4
CLIENT SAMPLE I.D.		NA	BLSV15S01	BLSV15S02	BLSV10S01	BLSV14S01
DEPTH		NA	5'	10'	6'	5'
EPA ID		NA	MV190	MV191	MV192	MV193
DILUTION FACTOR		1	1	1	1	1
COMPOUND	**CRDL**					
			Qual Code	Qual Code	Qual Code	Qual Code
Methane	9.8	ND	ND U	ND U	ND U	**12**

Qual Code

AMEC VALIDATED

LEVEL V

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/28/03	08/28/03	08/28/03	08/28/03	08/28/03
ANALYTICAL BATCH		082803GC2V265	082803GC2V265	082803GC2V265	082803GC2V265	082803GC2V265
LAB SAMPLE I.D.		22989-5	22989-6	22989-7	22989-8	22989-9
CLIENT SAMPLE I.D.		BLSV14S02	BLSV16S01	BLSV17S01	BLSV17S02	BLSV13S01
DEPTH		10'	9'	5'	9'	5'
EPA ID		MV194	MV195	MV196	MV197	MV198
DILUTION FACTOR		1	1	1	1	1
COMPOUND	**CRDL**					
		Qual Code	Qual Code	Qual Code	Qual Code	Qual Code
Methane	9.8	**9.9**	**10**	ND U	ND U	**11**

Qual Code

PM 1/14/04

AMEC VALIDATED

LEVEL V

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/28/03	08/28/03	08/28/03	08/28/03	08/28/03	
ANALYTICAL BATCH		082803GC2V265	082803GC2V265	082803GC2V265	082803GC2V265	082803GC2V265	
LAB SAMPLE I.D.		22989-10	22989-11	22989-12	22989-13	22989-14	
CLIENT SAMPLE I.D.		BLSV13S02	BLSV12S01	BLSV12S02	BLSV18S01	BLSV07S01	
DEPTH		10'	4'	8'	3'	4'	
EPA ID		MV199	MV200	MV201	MV202	MV203	
DILUTION FACTOR		1	1	1	1	1	
COMPOUND	**CRDL**	Qual Code	Qual Code	Qual Code	Qual Code	Qual Code	Qual Code
Methane	9.8	ND U	ND U	**10**	**13**	**10**	

AMEC VALIDATED

LEVEL V

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/28/03				
ANALYTICAL BATCH		082803GC2V265				
LAB SAMPLE I.D.		22989-15				
CLIENT SAMPLE I.D.		BLSV07S02				
DEPTH		12'				
EPA ID		MV204				
DILUTION FACTOR		1				
COMPOUND	**CRDL**					
		Qual	Qual Code			
Methane	9.8	**10**				

AMEC VALIDATED

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Methane by 8015B
QC Level: V[1]
SDG: 22996
Matrix: Soil Vapor
No. of Samples: 17
Date Reviewed: January 14, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV220, MV221, MV222, MV223, MV224, MV225, MV226, MV227, MV228, MV229, MV230, MV231, MV232, MV233, MV234, MV235, MV236

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COCs were signed and dated by field and mobile laboratory personnel and accounted for all samples in this SDG. According to the COCs and the instrument run log, the 24-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	One method blank and one bracketing CCB were analyzed this SDG. Methane was not reported in either the method blank or the CCB.	No qualifications were required.
6. Surrogates	Surrogates were not used in the analysis.	No qualifications were required.
7. Calibration	Three bracketing CCVs were analyzed with the samples in this SDG. The %Ds for methane were all less than the control limits of 15%.	No qualifications were required.

	Findings	Qualifications
10. Other	There were no field QC samples associated with the samples in this SDG. Duplicate analyses were performed on sample MV236. The RPD was 2% and was considered acceptable. Samples MV220, MV221, MV222, and MV223 were samples collected from the same location as samples MV192, MV195, MV196, and MV197 (all in SDG 22989). Methane was detected in MV220, MV222, and MV223 but was not detected in MV192, MV196, or MV197. Methane was detected in MV195 and MV221 with an RPD of 92%. The pairs were not considered to be in agreement.	No qualifications were required.
Comments	None	None

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Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/29/03	08/29/03	08/29/03	08/29/03	08/29/03
ANALYTICAL BATCH		082903GC2V266	082903GC2V266	082903GC2V266	082903GC2V266	082903GC2V266
LAB SAMPLE I.D.		Amb. Blank	22996-1	22996-2	22996-3	22996-4
CLIENT SAMPLE I.D.		NA	BLSV10D01	BLSV16D01	BLSV17D01	BLSV17D02
DEPTH		NA	6'	6'	5'	9'
EPA ID		NA	MV220	MV221	MV222	MV223
DILUTION FACTOR		1	1	1	1	1
COMPOUND	**CRDL**					
			Qual Code	Qual Code	Qual Code	Qual Code
Methane	9.8	ND	**25**	**27**	**27**	**25**

Qual

AMEC VALIDATED

LEVEL V

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/29/03	08/29/03	08/29/03	08/29/03	08/29/03
ANALYTICAL BATCH		082903GC2V266	082903GC2V266	082903GC2V266	082903GC2V266	082903GC2V266
LAB SAMPLE I.D.		22996-5	22996-6	22996-7	22996-8	22996-9
CLIENT SAMPLE I.D.		A1SV07S01	A1SV07S02	A1SV07S04	A1SV01S01	A1SV01S02
DEPTH		5'	10'	20'	5'	10'
EPA ID		MV224	MV225	MV226	MV227	MV228
DILUTION FACTOR		1	1	1	1	1
COMPOUND	**CRDL**					
		Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual Qual Code
Methane	9.8	**30**	**27**	**26**	**27**	**26**

AMEC VALIDATED

LEVEL V

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/29/03	08/29/03	08/29/03	08/29/03	08/29/03
ANALYTICAL BATCH		082903GC2V266	082903GC2V266	082903GC2V266	082903GC2V266	082903GC2V266
LAB SAMPLE I.D.		22996-10	22996-11	22996-12	22996-13	22996-14
CLIENT SAMPLE I.D.		A1SV01S03	A1SV01S04	A1SV04S01	A1SV04S02	A1SV04S03
DEPTH		15'	20'	5'	10'	15'
EPA ID		MV229	MV230	MV231	MV232	MV233
DILUTION FACTOR		1	1	1	1	1
COMPOUND	**CRDL**					
		Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual	Qual Code Rev Qual Qual Code
Methane	9.8	**25**	**29**	**27**	**25**	**25**

AMEC VALIDATED
LEVEL V

Project No./Name: Rocketdyne RFI Sampling

(RWQCB Lab Form 10A: Ver 6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GC/FID

REPORTING UNITS: µg/L of air

DATE ANALYZED		08/29/03	08/29/03	08/29/03		
ANALYTICAL BATCH		082903GC2V266	082903GC2V266	082903GC2V266		
LAB SAMPLE I.D.		22996-15	22996-16	22996-17		
CLIENT SAMPLE I.D.		A1SV04S04	A1SV06S01	A1SV07S03		
DEPTH		20'	5'	15'		
EPA ID		MV234	MV235	MV236		
DILUTION FACTOR		1	1	1		
COMPOUND	**CRDL**	Rev Qual	Rev Qual Code	Rev Qual	Rev Qual Code	Rev Qual	Rev Qual Code
Methane	9.8	**23**	**28**	**28**			

AMEC VALIDATED

LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: M4-958b

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	M4-958b
Project Manager:	Dixie Hambrick
Matrix:	soil vapor
QC Level:	V
No. of Samples:	6
No. of Reanalyses/Dilutions:	0
Laboratory:	Centrum

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample name	Matrix Type	Collection Date	Method
BHSV0006S01	M4-958b-01	na	soil vapor	3/5/07	8260B
BHQV0001F01	M4-958b-02	na	soil vapor	3/5/07	8260B
BHSV0008S02	M4-958b-03	na	soil vapor	3/5/07	8260B
BHSV0007S02	M4-958b-04	na	soil vapor	3/5/07	8260B
BHSV0009S01	M4-958b-05	na	soil vapor	3/5/07	8260B
BHSV0009D01	M4-958b-06	na	soil vapor	3/5/07	8260B

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory intact. The COCs were appropriately signed and dated by field and laboratory personnel. As the samples were couriered directly from the field to the mobile laboratory, custody seals were not required.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

A. EPA METHOD 8260B—Volatile Organic Compounds (VOCs) in Soil Vapor

Reviewed By: P. Meeks
Date Reviewed: April 2, 2007

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the MEC^X *Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), EPA Method 8260B*, *Interim Guidance for Active Soil Gas Investigations*, State of California Regional Water Quality Control Board - Los Angeles Region (LARWQCB, 1997), *Advisory – Active Soil Gas Investigations,* LARWQCB and Department of Toxic Substance Control (2003), and the *National Functional Guidelines for Organic Data Review* (2/94).

- Holding Times: Analytical holding times were met. The samples bulbs were analyzed within 4 hours of collection.

- GC/MS Tuning: The BFB tunes met the method abundance criteria. Samples were analyzed within 12 hours of the BFB injection time.

- Calibration: Calibration criteria were met. Initial calibration %RSDs were ≤20% and ≤30% for trichlorofluoromethane, dichlorodifluoromethane, trichlorotrifluoromethane, chloroethane, and vinyl chloride. The chloroethane %D exceeded the control limit at 15.2%; therefore, nondetected chloroethane in the site samples was qualified as estimated, "UJ." The remaining continuing calibration %Ds were ≤15% and ≤25% for trichlorofluoromethane, dichlorodifluoromethane, trichlorotrifluoromethane, chloroethane, and vinyl chloride.

- Blanks: The ambient air method blank had no target compound detects above the CRDL. This blank is best associated with the site and date of collection but is also a measure of bulb contamination and was, therefore, associated with all samples in this SDG.

- Surrogate Recovery: All recoveries were within LARWQCB method-established control limits of 75-125%.

- Blank Spikes and Laboratory Control Samples: The mobile laboratory analyzed two LCS samples for this SDG. For the reporting limit level LCS, all recoveries were at least 50%. For the 50 ug/L LCS, the 1,1-dichloroethene %D exceeded the control limit at 15.2%; therefore, nondetected chloroethane in the site samples was qualified as estimated, "UJ." All remaining %Ds were within the control limits of ≤20% and ≤30% for trichlorofluoromethane, dichlorodifluoromethane, trichlorotrifluoromethane, chloroethane, and vinyl chloride.

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

- Field Blanks: One field blank, BHQV0001F01, was analyzed in this SDG. No target compounds were reported in the field blank.

- Field Duplicates: Samples BHSV0009S01 and BHSV0009D01 were identified as field duplicates. There were no reportable target compounds in either of the field duplicate samples.

- Compound Identification: Compound identification was verified based on retention times only. Per previous conversations with the analyst, compounds crossed out in the mass spectrometer raw data and annotated with, “ID,” refer to compounds reported by the instrument but which lacked a spectral match.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified from the raw data. Reported nondetects are valid to the reporting limit.

Centrum Analytical Laboratories, Inc.

Project No: Boeing SSFL / 1891263.011181 / 1891264.0111811 (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULT FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED			03/05/07	03/05/07	03/05/07	03/05/07	03/05/07
ANALYTICAL BATCH			030507M4V1554	030507M4V1554	030507M4V1554	030507M4V1554	030507M4V1554
LAB SAMPLE I.D.			Amb. Blank	M4-958b-01	M4-958b-02	M4-958b-03	M4-958b-04
CLIENT SAMPLE I.D.			NA	BHSV0006S01	BHQV0001F01	BHSV0008S02	BHSV0007S02
DEPTH			NA	3'	NA	10'	8'
EPA ID			NA	NA	NA	NA	NA
DILUTION FACTOR			1	1	1	1	1
COMPOUND		**CRDL**					
Benzene		1.0	ND *	ND U	ND U	ND U	ND U
Carbon tetrachloride		1.0	ND	ND	ND	ND	ND
Chloroethane		1.0	ND	ND UJ/C	ND UJ/C	ND UJ/C	ND UJ/C
Chloroform		1.0	ND	ND U	ND U	ND U	ND U
Dichlorodifluoromethane		1.0	ND	ND	ND	ND	ND
1,1-Dichloroethane		1.0	ND	ND	ND	ND	ND
1,2-Dichloroethane		1.0	ND	ND	ND	ND	ND
1,1-Dichloroethene		1.0	ND	ND UJ/L	ND UJ/L	ND UJ/L	ND UJ/L
cis-1,2-Dichloroethene		1.0	ND	ND U	ND U	ND U	ND U
trans-1,2-Dichloroethene		1.0	ND	ND	ND	ND	ND
Ethylbenzene		1.0	ND	ND	ND	ND	ND
Methylene chloride		50	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane		1.0	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		2.0	ND	ND	ND	ND	ND
Tetrachloroethene		1.0	ND	ND	ND	ND	ND
Toluene		1.0	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		1.0	ND	ND	ND	ND	ND
1,1,2-Trichloroethane		1.0	ND	ND	ND	ND	ND
Trichloroethene		1.0	ND	ND	ND	ND	ND
Trichlorofluoromethane		1.0	ND	ND	ND	ND	ND
Trichlorotrifluoroethane		5.0	ND	ND	ND	ND	ND
Vinyl chloride		2.0	ND	ND	ND	ND	ND
Xylenes, m-,p-		2.0	ND	ND	ND	ND	ND
Xylene, o-		1.0	ND	ND	ND	ND	ND
TRACER COMPOUND							
Isopropanol		10	ND	ND	ND	ND	ND
SURROGATE	**SPK CONC**	**ACP%**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**
d-Methylene Chloride	50	70-130	107	117	112	113	110
d-Chloroform	50	70-130	108	116	113	115	114
d-Benzene	50	70-130	116	122	118	119	117
Dibromofluoromethane	50	70-130	98	99	99	99	98
Toluene-d8	50	70-130	99	98	98	99	99
Bromofluorobenzene	50	70-130	101	102	100	97	99

* Analysis not validated

pm 4/4/07

LEVEL V

Centrum Analytical Laboratories, Inc.

Project No: Boeing SSFL / 1891263.011181 / 1891264.0111811 (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULT FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

		DATE ANALYZED	03/05/07	03/05/07			
		ANALYTICAL BATCH	030507M4V1554	030507M4V1554			
		LAB SAMPLE I.D.	M4-958b-05	M4-958b-06			
		CLIENT SAMPLE I.D.	BHSV0009S01	BHSV0009D01			
		DEPTH	5'	5'			
		EPA ID	NA	NA			
		DILUTION FACTOR	1	1			
COMPOUND		CRDL					
Benzene		1.0	ND U	ND U			
Carbon tetrachloride		1.0	ND	ND			
Chloroethane		1.0	ND UJ/C	ND UJ/C			
Chloroform		1.0	ND U	ND U			
Dichlorodifluoromethane		1.0	ND	ND			
1,1-Dichloroethane		1.0	ND	ND			
1,2-Dichloroethane		1.0	ND	ND			
1,1-Dichloroethene		1.0	ND UJ/L	ND UJ/L			
cis-1,2-Dichloroethene		1.0	ND U	ND U			
trans-1,2-Dichloroethene		1.0	ND	ND			
Ethylbenzene		1.0	ND	ND			
Methylene chloride		50	ND	ND			
1,1,1,2-Tetrachloroethane		1.0	ND	ND			
1,1,2,2-Tetrachloroethane		2.0	ND	ND			
Tetrachloroethene		1.0	ND	ND			
Toluene		1.0	ND	ND			
1,1,1-Trichloroethane		1.0	ND	ND			
1,1,2-Trichloroethane		1.0	ND	ND			
Trichloroethene		1.0	ND	ND			
Trichlorofluoromethane		1.0	ND	ND			
Trichlorotrifluoroethane		5.0	ND	ND			
Vinyl chloride		2.0	ND	ND			
Xylenes, m-,p-		2.0	ND	ND			
Xylene, o-		1.0	ND	ND			
TRACER COMPOUND							
Isopropanol		10	ND	ND			
SURROGATE	**SPK CONC**	**ACP%**	**%RC**	**%RC**			
d-Methylene Chloride	50	70-130	103	99			
d-Chloroform	50	70-130	105	103			
d-Benzene	50	70-130	108	106			
Dibromofluoromethane	50	70-130	98	99			
Toluene-d8	50	70-130	96	99			
Bromofluorobenzene	50	70-130	100	100			

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
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DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Volatiles by 8260B
QC Level: V[1]
SDG: M4-517
Matrix: Soil Vapor
No. of Samples: 15
Date Reviewed: January 13, 2004
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV205, MV206, MV207, MV208, MV209, MV210, MV211, MV212, MV213, MV214, MV215, MV216, MV217, MV218, MV219

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed and dated by field and mobile laboratory personnel and accounted for all samples in this SDG. The MWH IDs for MV205 and MV206 and the collection time for sample MV213 were hand-corrected on the COC. These corrections were uninitialed. According to the COC and the instrument run log, the eight-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	One method blank was analyzed in this SDG. No target compounds were reported in the method blank.	No qualifications were required.
6. Surrogates	All surrogate recoveries were within the control limits of 70-130%.	No qualifications were required.
7. Calibration	The BFB tune was acceptable and all samples were analyzed within 12 hours of the BFB tune. The %RSDs for the initial calibration were all less than the control limit of 20%, or 30% where applicable.	

	Findings	Qualifications
7. Calibration (cont.)	The %Ds for dichlorodifluoromethane and tetrachloroethene exceeded the control limits in both the bracketing CCVs. The remaining %Ds for the CCVs were all less than the control limits of 15%, or 25% where applicable.	All nondetected results for dichlorodifluoromethane and tetrachloroethene were qualified as estimated, "UJ."
10. Other	There were no field QC samples associated with the samples in this SDG. Samples MV205/MV206, MV207/MV208, MV209/MV210, and MV213/MV214 were identified as the field duplicate pairs analyzed with this SDG. There were no target compounds reported in any of the field duplicate samples and the pairs were considered to be in good agreement.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED		08/28/03	08/28/03	08/28/03	08/28/03	08/28/03	
ANALYTICAL BATCH		082803M4V968	082803M4V968	082803M4V968	082803M4V968	082803M4V968	
LAB SAMPLE I.D.		Amb. Blank	M4-517-01	M4-517-02	M4-517-03	M4-517-04	
CLIENT SAMPLE I.D.		NA	BLSV07S01	BLSV07D01	BLSV07S02	BLSV07D02	
DEPTH		NA	6'	6'	12'	12'	
EPA ID		NA	MV205	MV206	MV207	MV208	
DILUTION FACTOR		1	1	1	1	1	
COMPOUND	**CRDL**		Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code / Rev Qual	Qual Code
Benzene	1.0	ND	ND U	ND U	ND U	ND U	
Carbon tetrachloride	1.0	ND	ND	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	ND	ND	
Dichlorodifluoromethane	1.0	ND	ND UJ	C ND UJ	C ND UJ	C ND UJ	C
1,1-Dichloroethane	1.0	ND	ND U	ND U	ND U	ND U	
1,2-Dichloroethane	1.0	ND	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
Ethylbenzene	1.0	ND	ND	ND	ND	ND	
Methylene chloride	10	ND	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	2.0	ND	ND	ND	ND	ND	
Tetrachloroethene	1.0	ND	ND UJ	C ND UJ	C ND UJ	C ND UJ	C
Toluene	1.0	ND	ND U	ND U	ND U	ND U	
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	ND	
Trichloroethene	1.0	ND	ND	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	ND	
Trichlorotrifluoroethane	5.0	ND	ND	ND	ND	ND	
Vinyl chloride	1.0	ND	ND	ND	ND	ND	
Xylenes, m-,p-	2.0	ND	ND	ND	ND	ND	
Xylene, o-	1.0	ND	ND	ND	ND	ND	

SURROGATE	**SPK CONC**	**ACP%**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**
d-Methylene Chloride	50	70-130	81	92	90	93	89
d-Chloroform	50	70-130	90	96	95	98	94
d-Benzene	50	70-130	94	98	97	99	95
Dibromofluoromethane	50	70-130	103	104	104	103	104
Toluene-d8	50	70-130	101	98	96	97	97
Bromofluorobenzene	50	70-130	98	98	102	99	100

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

LEVEL V

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED		08/28/03	08/28/03	08/28/03	08/28/03	08/28/03	
ANALYTICAL BATCH		082803M4V968	082803M4V968	082803M4V968	082803M4V968	082803M4V968	
LAB SAMPLE I.D.		M4-517-05	M4-517-06	M4-517-07	M4-517-08	M4-517-09	
CLIENT SAMPLE I.D.		BLSV13S02	BLSV13D02	BLSV12S01	BLSV12D01	BLSV12S02	
DEPTH		10'	10'	4'	4'	8'	
EPA ID		MV209	MV210	MV211	MV212	MV213	
DILUTION FACTOR		1	1	1	1	1	
COMPOUND	**CRDL**	Raw Qual	Qual Code / Raw Qual	Qual Code / Raw Qual	Qual Code / Raw Qual	Qual Code / Raw Qual	Qual Code
Benzene	1.0	ND U	ND U	ND U	ND U	ND U	
Carbon tetrachloride	1.0	ND	ND	ND	ND	ND	
Chloroethane	1.0	ND	ND	ND	ND	ND	
Chloroform	1.0	ND	ND	ND	ND	ND	
Dichlorodifluoromethane	1.0	ND UJ	< ND UJ	< ND UJ	< ND UJ	< ND UJ	<
1,1-Dichloroethane	1.0	ND U	ND U	ND U	ND U	ND U	
1,2-Dichloroethane	1.0	ND	ND	ND	ND	ND	
1,1-Dichloroethene	1.0	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	
Ethylbenzene	1.0	ND	ND	ND	ND	ND	
Methylene chloride	10	ND	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	2.0	ND	ND	ND	ND	ND	
Tetrachloroethene	1.0	ND UJ	< ND UJ	< ND UJ	< ND UJ	< ND UJ	<
Toluene	1.0	ND U	ND U	ND U	ND U	ND U	
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	ND	
Trichloroethene	1.0	ND	ND	ND	ND	ND	
Trichlorofluoromethane	1.0	ND	ND	ND	ND	ND	
Trichlorotrifluoroethane	5.0	ND	ND	ND	ND	ND	
Vinyl chloride	1.0	ND	ND	ND	ND	ND	
Xylenes, m-,p-	2.0	ND	ND	ND	ND	ND	
Xylene, o-	1.0	ND	ND	ND	ND	ND	

SURROGATE	**SPK CONC**	**ACP%**	**%RC**	**%RC**	**%RC**	**%RC**	**%RC**
d-Methylene Chloride	50	70-130	90	91	93	97	92
d-Chloroform	50	70-130	93	95	99	99	91
d-Benzene	50	70-130	95	95	97	101	93
Dibromofluoromethane	50	70-130	105	106	106	104	105
Toluene-d8	50	70-130	96	99	98	99	99
Bromofluorobenzene	50	70-130	97	98	95	99	97

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS **REPORTING UNIT: µg/L of Air**

DATE ANALYZED			08/28/03			08/28/03			08/28/03			08/28/03			08/28/03								
ANALYTICAL BATCH			082803M4V968			082803M4V968			082803M4V968			082803M4V968			082803M4V968								
LAB SAMPLE I.D.			M4-517-10			M4-517-11			M4-517-12			M4-517-13			M4-517-14								
CLIENT SAMPLE I.D.			BLSV12D02			BLSV18S01			A1SV07S01			A1SV07S02			A1SV07S03								
DEPTH			8'			3'			5'			10'			15'								
EPA ID			MV214			MV215			MV216			MV217			MV218								
DILUTION FACTOR			1	Rev Qual		1	Rev Qual		1	Rev Qual		1	Rev Qual		1	Rev Qual							
COMPOUND		**CRDL**			Qual Code			Qual Code			Qual Code			Qual Code			Qual Code						Qual Code
Benzene		1.0	ND	U		ND	U		ND	U		ND	U		ND	U							
Carbon tetrachloride		1.0	ND			ND			ND			ND			ND								
Chloroethane		1.0	ND			ND			ND			ND			ND								
Chloroform		1.0	ND			ND			ND			ND			ND								
Dichlorodifluoromethane		1.0	ND	UJ	<	ND	UJ	<	ND	UJ	<	ND	UJ	<	ND	UJ	<						C
1,1-Dichloroethane		1.0	ND	U		ND	U		ND	U		ND	U		ND	U							
1,2-Dichloroethane		1.0	ND			ND			ND			ND			ND								
1,1-Dichloroethene		1.0	ND			ND			ND			ND			ND								
cis-1,2-Dichloroethene		1.0	ND			ND			ND			ND			ND								
trans-1,2-Dichloroethene		1.0	ND			ND			ND			ND			ND								
Ethylbenzene		1.0	ND			ND			ND			ND			ND								
Methylene chloride		10	ND			ND			ND			ND			ND								
1,1,1,2-Tetrachloroethane		1.0	ND			ND			ND			ND			ND								
1,1,2,2-Tetrachloroethane		2.0	ND			ND			ND			ND			ND								
Tetrachloroethene		1.0	ND	UJ	<	ND	UJ	<	ND	UJ	<	ND	UJ	<	ND	UJ	<						C
Toluene		1.0	ND	U		ND	U		ND	U		ND	U		ND	U							
1,1,1-Trichloroethane		1.0	ND			ND			ND			ND			ND								
1,1,2-Trichloroethane		1.0	ND			ND			ND			ND			ND								
Trichloroethene		1.0	ND			ND			ND			**1.2**			**1.0**								
Trichlorofluoromethane		1.0	ND			ND			ND			ND	U		ND	U							
Trichlorotrifluoroethane		5.0	ND			ND			ND			ND			ND								
Vinyl chloride		1.0	ND			ND			ND			ND			ND								
Xylenes, m-,p-		2.0	ND			ND			ND			ND			ND								
Xylene, o-		1.0	ND			ND			ND			ND			ND								
SURROGATE	**SPK CONC**	**ACP%**	**%RC**			**%RC**			**%RC**			**%RC**			**%RC**								
d-Methylene Chloride	50	70-130	95			94			85			87			89								
d-Chloroform	50	70-130	91			100			88			90			91								
d-Benzene	50	70-130	91			101			92			91			94								
Dibromofluoromethane	50	70-130	109			104			103			107			104								
Toluene-d8	50	70-130	98			94			97			99			96								
Bromofluorobenzene	50	70-130	98			95			96			97			101								

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

Project No: Rocketdyne RFI Sampling (RWQCB labFrom 10A; Ver6/00)

ANALYTICAL RESULTS FOR ORGANICS

METHOD: GCMS

REPORTING UNIT: µg/L of Air

DATE ANALYZED			08/28/03				
ANALYTICAL BATCH			082803M4V968				
LAB SAMPLE I.D.			M4-517-15				
CLIENT SAMPLE I.D.			A1SV07S04				
DEPTH			20'				
EPA ID			MV219				
DILUTION FACTOR			1 Rev	Qual			
COMPOUND		**CRDL**	Qual	Code			
Benzene		1.0	ND U				
Carbon tetrachloride		1.0	ND				
Chloroethane		1.0	ND				
Chloroform		1.0	ND				
Dichlorodifluoromethane		1.0	ND UJ	C			
1,1-Dichloroethane		1.0	ND U				
1,2-Dichloroethane		1.0	ND				
1,1-Dichloroethene		1.0	ND				
cis-1,2-Dichloroethene		1.0	ND				
trans-1,2-Dichloroethene		1.0	ND				
Ethylbenzene		1.0	ND				
Methylene chloride		10	ND				
1,1,1,2-Tetrachloroethane		1.0	ND				
1,1,2,2-Tetrachloroethane		2.0	ND				
Tetrachloroethene		1.0	ND UJ	C			
Toluene		1.0	ND U				
1,1,1-Trichloroethane		1.0	ND				
1,1,2-Trichloroethane		1.0	ND				
Trichloroethene		1.0	ND				
Trichlorofluoromethane		1.0	ND				
Trichlorotrifluoroethane		5.0	ND				
Vinyl chloride		1.0	ND				
Xylenes, m-,p-		2.0	ND				
Xylene, o-		1.0	ND				
SURROGATE	**SPK CONC**	**ACP%**	**%RC**				
d-Methylene Chloride	50	70-130	91				
d-Chloroform	50	70-130	94				
d-Benzene	50	70-130	94				
Dibromofluoromethane	50	70-130	104				
Toluene-d8	50	70-130	98				
Bromofluorobenzene	50	70-130	98				

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

LEVEL V

AMEC VALIDATED

P –

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

0187

FOR LABORATORY USE ONLY
Laboratory Project No.: _____ Secured: Yes ___ No ___
Storage Refrigerator ID: _____
Storage Freezer ID: _____

Project Name: Rocketdyne SSFL Project #: 41045-006-00 Sampler: James J LeRoy (Printed Name) James J LeRoy (Signature)

Relinquished by: (Signature and Printed Name) James J LeRoy James J LeRoy — Received by: (Signature and Printed Name) R PARRICK — Date: 8/20/93 Time: 17:10

Relinquished by: (Signature and Printed Name) — Received by: (Signature and Printed Name) — Date: Time:

Relinquished by: (Signature and Printed Name) — Received by: (Signature and Printed Name) — Date: Time:

Received by: (Signature and Printed Name) — Date: Time:

SHIP TO LAB:

Method of Shipment: _____

Shipment ID: _____

Circle or Add Analysis(es) Requested

a=Identify specific metals requested under Special Instructions

	Sample ID Number	Sample Description: Date	Time	Description	601/8010 (Halogenated Volatiles-GC)	602/8020 (Aromatic Volatiles-GC)	604/8040 (Phenols-GC)	608/8080 (Pesticides/PCB-GC)	610/8100 (PNA-GC)	624/8240 (Volatiles-GC/MS)	625/8270 (BNA-GC/MS)	TPH/G (Gasoline-GC)	TPH/D (Diesel-GC)	418.1 (TPH-IR)	8015 Modified (GC)	Metals-Total a	Metals-Soluble a	Fluoride/Nitrate	Chloride/pH	TDS/Percent Solid	Specific Conductivity (EC)	Soil Vapor VOCs by GC/MS	TAT	Container(s) #	Container(s) Type	FOR LAB USE ONLY Lab ID
1	SV-7.10 4-1.5	8/20	0938																			X	S5	G		
2	SV-7.10 3-3.5	"	1007																				R8	"		
3	SV-7.1 2-20	"	1118																				T3	"		
4	SV-7.1 2-10	"	1158																				R9	"		
5	SV-4.15 2A-8.5B	"	1615																				S4	"		
6	SVLF-900 1-13/27.5	"	1738																				S8	"		
7	SVLF-900 1-13/27.5D	"	1754																				R1	"		
8																										
9																										
10																										

Special Instructions/Comments: _____

Sample Archive/Disposal:
☐ Laboratory Standard
☐ Other _____

TAT (Analytical Turn-Around Times) 1=24 hours 2=48 hours 3=1 week 4=2 weeks
Container Types: B=Brass Tube V=VOA Vial A=1-Liter Amber G=Glass Jar C=Cassette
O=Other _____

FOR LABORATORY USE ONLY. Sample Condition Upon Receipt: _____

SEND DOCUMENTATION AND RESULTS TO:
ATTENTION: _____

ICF KAISER ENGINEERS
10 UNIVERSAL CITY PLAZA
SUITE 2400
UNIVERSAL CITY, CALIFORNIA 91608
(818) 509-3100 FAX (818) 509-3137

Quantitation Report

Data File : C:\HPCHEM\1\DATA\VOA0722.D
Acq Time : 20 Aug 93 1:48 pm
Sample : SV7.1-2-20
Misc : 20 AUG 93 11:18 am BULB T3
Quant Time: Aug 20 14:44 1993

Operator: RAPHE PAVLICK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\HGSVOASC.M
Title : VOA Standards for 5 point calibration
Last Update : Mon Aug 23 19:46:56 1993
Response via : Multiple Level Calibration

NO COMPOUNDS DETECTED

Quantitation Report

Data File : C:\HPCHEM\1\DATA\VOA0724.D
Acq Time : 20 Aug 93 2:29 pm
Sample : QA SV7.1-2-20R
Misc : 20 AUG 93 11:18 am BULB T3
Quant Time: Aug 20 14:56 1993

Operator: RAPHE PAVLICK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\HGSVOASC.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Aug 19 16:10:52 1993
Response via : Multiple Level Calibration

NO COMPOUNDS DETECTED

Quantitation Report

Data File : C:\HPCHEM\1\DATA\VOA0725.D
Acq Time : 20 Aug 93 2:52 pm
Sample : SV7.1-2-10
Misc : 20 AUG 93 11:58 am BULB R9
Quant Time: Aug 20 15:18 1993

Operator: RAPHE PAVLICK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\HGSVOASC.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Aug 19 16:10:52 1993
Response via : Multiple Level Calibration

NO COMPOUNDS DETECTED

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

0190

FOR LABORATORY USE ONLY
Laboratory Project No.: _____ Secured:
Storage Refrigerator ID: _____ Yes ____
Storage Freezer ID: _____ No ____

Project Name: ROCKETDYNE SSFL Project #: 41045-006-00 Sampler: STEVE HANSEN (Printed Name) Steve Hansen (Signature)

Relinquished by: (Signature and Printed Name) Steve Hansen — Received by: (Signature and Printed Name) R. PARRICK — Date: 8/20/93 Time: 18:05

Relinquished by: (Signature and Printed Name) — Received by: (Signature and Printed Name) — Date: — Time:

Relinquished by: (Signature and Printed Name) — Received by: (Signature and Printed Name) — Date: — Time:

Relinquished by: (Signature and Printed Name) — Received by: (Signature and Printed Name) — Date: — Time:

SHIP TO LAB:

Method of Shipment: HAND DELIVER

Shipment ID:

Circle or Add Analysis(es) Requested

a=Identify specific metals requested under Special Instructions

	Sample ID Number	Sample Description: Date	Time	Description	601/8010 (Halogenated Volatiles-GC)	602/8020 (Aromatic Volatiles-GC)	604/8040 (Phenols-GC)	608/8080 (Pesticides/PCB-GC)	610/8100 (PNA-GC)	624/8240 (Volatiles-GC/MS)	625/8270 (BNA-GC/MS)	TPH/G (Gasoline-GC)	TPH/D (Diesel-GC)	418.1 (TPH-IR)	8015 Modified (GC)	Metals-Total a	Metals-Soluble a	Fluoride/Nitrate	Chloride/pH	TDS/Percent Solid	Specific Conductivity (EC)	SOIL VAPOR VOC'S GCMS				TAT	Container(s) #	Container(s) Type	FOR LAB USE ONLY Lab ID
1	SV 7.10-1-1.5	8/20/93	9:33	SOIL VAPOR																		X					1	Bu	S6
2	SV 7.10-2-3	8/20/93	9:58																			X					1	Bu	R3
3	SV-7.1-1-2.5	8/20/93	11:31																			X					1	Bu	R7
4	SV 7.1-1-10	8/20/93	12:11																			X					1	Bu	T2
5	SV 7.1-3-4.5	8/20/93	15:01																			X					1	Bu	T1
6	SV 7.1-4-2.5	8/20/93	15:21																			X					1	Bu	S7
7	SV 7.1-5-4.5	8/20/93	16:30																			X					1	Bu	R5
8	SV B204 2-4	8/20/93	17:35																			X					1	Bu	R3
9																													
10																													

Special Instructions/Comments: _____

Sample Archive/Disposal:
☐ Laboratory Standard
☐ Other _____

TAT (Analytical Turn-Around Times) 1=24 hours 2=48 hours 3=1 week 4=2 weeks
Container Types: B=Brass Tube V=VOA Vial A=1-Liter Amber G=Glass Jar C=Cassette
O=Other BULB

FOR LABORATORY USE ONLY. Sample Condition Upon Receipt: _____

SEND DOCUMENTATION AND RESULTS TO:
ATTENTION: _____

ICF KAISER ENGINEERS
10 UNIVERSAL CITY PLAZA
SUITE 2400
UNIVERSAL CITY, CALIFORNIA 91608
(818) 509-3100 FAX (818) 509-3137

Quantitation Report

Data File : C:\HPCHEM\1\DATA\VOA0723.D
Acq Time : 20 Aug 93 2:08 pm
Sample : SV7.1-1-25
Misc : 20 AUG 93 11:31 am BULB R7
Quant Time: Aug 20 14:47 1993

Operator: RAPHE PAVLICK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\HGSVOASC.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Aug 19 16:10:52 1993
Response via : Multiple Level Calibration

NO COMPOUNDS DETECTED

Quantitation Report

Data File : C:\HPCHEM\1\DATA\VOA0726.D
Acq Time : 20 Aug 93 3:16 pm
Sample : SV7.1-1-10
Misc : 20 AUG 93 12:11 pm BULB T2
Quant Time: Aug 20 15:39 1993

Operator: RAPHE PAVLICK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\HGSVOASC.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Aug 19 16:10:52 1993
Response via : Multiple Level Calibration

NO COMPOUNDS DETECTED

Quantitation Report

Data File : C:\HPCHEM\1\DATA\VOA0731.D
Acq Time : 20 Aug 93 5:21 pm
Sample : SV7.1-5-4.5
Misc : 20 AUG 93 4:30 pm BULB R5
Quant Time: Aug 20 17:55 1993

Operator: RAPHE PAVLICK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\HGSVOASC.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Aug 19 16:10:52 1993
Response via : Multiple Level Calibration

NO COMPOUNDS DETECTED

Quantitation Report

Data File : C:\HPCHEM\1\DATA\VOA0732.D
Acq Time : 20 Aug 93 5:45 pm
Sample : SV7.1-4-2.5
Misc : 20 AUG 93 3:21 pm BULB S7
Quant Time: Aug 20 18:05 1993

Operator: RAPHE PAVLICK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\HGSVOASC.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Aug 19 16:10:52 1993
Response via : Multiple Level Calibration

NO COMPOUNDS DETECTED

Quantitation Report

Data File : C:\HPCHEM\1\DATA\VOA0733.D
Acq Time : 20 Aug 93 6:03 pm
Sample : SV7.1-3-4.5
Misc : 20 AUG 93 3:01 pm BULB T1
Quant Time: Aug 20 18:50 1993

Operator: RAPHE PAVLICK
Inst : 5972 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\HGSVOASC.M
Title : VOA Standards for 5 point calibration
Last Update : Thu Aug 19 16:10:52 1993
Response via : Multiple Level Calibration

NO COMPOUNDS DETECTED

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CHAIN OF CUSTODY REC

PROJECT NAME: BOEING - SSFL

PROJECT NUMBER: 8640

PROJECT MANAGER: L. BRUMBAUGH

SAMPLERS: REP

TYPE & NUMBER OF CONTAINERS / ANALYSES REQUIRED

SAMP. IDENTIFIER	DATE SAMPLED 1999	TIME SAMPLED	SAMPLE TYPE: Composite or GRAB	SAMPLE TYPE: Soil or WATER	40 ml. vials						TOTAL # OF CONTAINERS	VOA 8021B							BATCH #	REMARKS, PRESERVATIVE SPECIAL HANDLING
PIT-56	4/8	0800	G	W	2						2	X								

SIGNATURE	COMPANY/SHIPPING METHOD	DATE	TIME	REMARKS/CONDITION OF SAMPLES
RELINQUISHED BY: R. Eric Reice	GWRC / Courier	4/8/99	A.M.	
RECEIVED BY: Mary Marler		4/08/99	8:45	
RELINQUISHED BY:				
RECEIVED BY: R. MARTINEZ	CAS	4/9/99	1000 AM	
RELINQUISHED BY:				
RECEIVED BY:				

SHIP TO: CAS

SEND RESULTS AND INVOICE TO:

GROUNDWATER RESOURCES CONSULTANTS, I
6200 EAST 14th STREET, SUITE A200
TUCSON, ARIZONA 85711-4029
PHONE: (520) 326-1898 FAX: (520) 747-3491

CHAIN OF CUSTODY RECORD

PROJECT NAME: BOEING - SSFL

PROJECT NUMBER: 8640 [redacted]

PROJECT MANAGER: CHUCK DICKENS

SAMPLERS: REP / DLB

TYPE & NUMBER OF CONTAINERS

ANALYSES REQUIRED

SAMP. IDENTIFIER	DATE SAMPLED 1999	TIME SAMPLED	SAMPLE TYPE: Composite or GRAB	SAMPLE TYPE: Soil or WATER	liter plastic	500ml plastic	40ml VOA				TOTAL # OF CONTAINERS	Trace Metals	Common Ions	Cn	8260				BATCH #	REMARKS, PRESERVATIVES, SPECIAL HANDLING
B/056 PIT	2/22	1120	G	W	2	1					3	X	X	X						For TM – arsenic, barium
	2/23	1400	"	"			2				2				X					cadmium, Cr, Pb, mercury
																				selenium, silver
																				For CI – bicarbonate, Cl,
																				SO_4, nitrate, Ca, Mg, sodium
																				K, TDS, Fluoride, Fe, Mn

L9900819

	SIGNATURE	COMPANY/SHIPPING METHOD	DATE	TIME	REMARKS/CONDITION OF SAMPLES
RELINQUISHED BY:	D. [signature]	GWRC / Hand	2/23/99		
RECEIVED BY:	[signature]	CAS	2/23/99	1600	
RELINQUISHED BY:					
RECEIVED BY:					
RELINQUISHED BY:					
RECEIVED BY:					

SHIP TO: CAS - CANOGA

SEND RESULTS AND INVOICE TO: **GROUNDWATER RESOURCES CONSULTANTS, INC.**
6200 EAST 14th STREET, SUITE A200
TUCSON, ARIZONA 85711-4029
PHONE: (520) 326-1898 FAX: (520) 747-3491

TestAmerica
ANALYTICAL TESTING CORPORATION

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

LABORATORY REPORT

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

Project: SSFL Group 8 - DOE
1891264

Sampled: 02/14/07
Received: 02/14/07
Issued: 03/11/07 17:01

NELAP #01108CA California ELAP#1197 CSDLAC #10256

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 TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 2°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 TestAmerica 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: Enclosed are complete final results. The results for Mercury and EPA 8330 were added.

LABORATORY ID	CLIENT ID	MATRIX
IQB1486-01	BLSW0001S01	Water
IQB1486-02	BLQW0018E01	Water

Reviewed By:

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: BLQW0018E01 (IQB1486-02) - Water					
EPA 7199	1	02/14/2007 09:00	02/14/2007 19:45	02/14/2007 19:30	02/14/2007 21:27

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

METHOD BLANK/QC DATA

EXTRACTABLE FUEL HYDROCARBONS (EPA 3510C/8015 CADHS Modified)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7B19055 Extracted: 02/19/07											
Blank Analyzed: 02/19/2007 (7B19055-BLK1)											
EFH (C8 - C30)	ND	0.50	0.10	mg/l							
EFH (C8 - C11)	ND	0.50	0.10	mg/l							
EFH (C12 - C14)	ND	0.50	0.10	mg/l							
EFH (C15 - C20)	ND	0.50	0.10	mg/l							
EFH (C21 - C30)	ND	0.50	0.10	mg/l							
Surrogate: n-Octacosane	*0.137*			*mg/l*	*0.200*		*68*	*40-125*			
LCS Analyzed: 02/19/2007 (7B19055-BS1)											**MNR1**
EFH (C8 - C30)	0.787	0.50	0.10	mg/l	1.00		79	40-115			
Surrogate: n-Octacosane	*0.136*			*mg/l*	*0.200*		*68*	*40-125*			
LCS Dup Analyzed: 02/19/2007 (7B19055-BSD1)											
EFH (C8 - C30)	0.757	0.50	0.10	mg/l	1.00		76	40-115	4	25	
Surrogate: n-Octacosane	*0.132*			*mg/l*	*0.200*		*66*	*40-125*			

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

METHOD BLANK/QC DATA

POLYCHLORINATED BIPHENYLS (EPA 3510C/8082)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7B15105 Extracted: 02/15/07											
Blank Analyzed: 02/16/2007 (7B15105-BLK1)											
Aroclor 1016	ND	1.0	0.35	ug/l							
Aroclor 1221	ND	1.0	0.10	ug/l							
Aroclor 1232	ND	1.0	0.25	ug/l							
Aroclor 1242	ND	1.0	0.25	ug/l							
Aroclor 1248	ND	1.0	0.25	ug/l							
Aroclor 1254	ND	1.0	0.25	ug/l							
Aroclor 1260	ND	1.0	0.30	ug/l							
Surrogate: Decachlorobiphenyl	*0.408*			*ug/l*	*0.500*		*82*	*45-120*			
LCS Analyzed: 02/16/2007 (7B15105-BS2)											**MNR1**
Aroclor 1016	3.01	1.0	0.35	ug/l	4.00		75	45-115			
Aroclor 1260	3.14	1.0	0.30	ug/l	4.00		78	55-115			
Surrogate: Decachlorobiphenyl	*0.401*			*ug/l*	*0.500*		*80*	*45-120*			
LCS Dup Analyzed: 02/16/2007 (7B15105-BSD2)											
Aroclor 1016	3.21	1.0	0.35	ug/l	4.00		80	45-115	6	30	
Aroclor 1260	3.46	1.0	0.30	ug/l	4.00		86	55-115	10	25	
Surrogate: Decachlorobiphenyl	*0.439*			*ug/l*	*0.500*		*88*	*45-120*			

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7B19069 Extracted: 02/19/07											
Blank Analyzed: 02/19/2007-02/23/2007 (7B19069-BLK1)											
Aluminum	ND	0.050	0.040	mg/l							
Boron	ND	0.050	0.020	mg/l							
Lithium	ND	0.050	0.030	mg/l							
Potassium	ND	0.50	0.15	mg/l							
Sodium	ND	0.50	0.19	mg/l							
Zirconium	ND	0.20	0.012	mg/l							
LCS Analyzed: 02/19/2007-02/23/2007 (7B19069-BS1)											
Aluminum	0.933	0.050	0.040	mg/l	1.00		93	80-120			
Boron	0.982	0.050	0.020	mg/l	1.00		98	80-120			
Lithium	0.950	0.050	0.030	mg/l	1.00		95	80-120			
Potassium	9.74	0.50	0.15	mg/l	10.0		97	80-120			
Sodium	10.2	0.50	0.19	mg/l	10.0		102	80-120			
Zirconium	1.03	0.20	0.012	mg/l	1.00		103	80-120			
Matrix Spike Analyzed: 02/19/2007-02/23/2007 (7B19069-MS1)						**Source: IQB1486-02**					
Aluminum	0.941	0.050	0.040	mg/l	1.00	ND	94	75-125			
Boron	0.968	0.050	0.020	mg/l	1.00	ND	97	75-125			
Lithium	0.945	0.050	0.030	mg/l	1.00	ND	94	75-125			
Potassium	9.62	0.50	0.15	mg/l	10.0	ND	96	75-125			
Sodium	9.63	0.50	0.19	mg/l	10.0	ND	96	75-125			
Zirconium	1.06	0.20	0.012	mg/l	1.00	ND	106	75-125			
Matrix Spike Dup Analyzed: 02/19/2007-02/23/2007 (7B19069-MSD1)						**Source: IQB1486-02**					
Aluminum	0.963	0.050	0.040	mg/l	1.00	ND	96	75-125	2	20	
Boron	0.979	0.050	0.020	mg/l	1.00	ND	98	75-125	1	20	
Lithium	0.955	0.050	0.030	mg/l	1.00	ND	96	75-125	1	20	
Potassium	10.1	0.50	0.15	mg/l	10.0	ND	101	75-125	5	20	
Sodium	10.2	0.50	0.19	mg/l	10.0	ND	102	75-125	6	20	
Zirconium	1.06	0.20	0.012	mg/l	1.00	ND	106	75-125	0	20	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7B21161 Extracted: 02/21/07											
Blank Analyzed: 02/22/2007 (7B21161-BLK1)											
Antimony	ND	2.0	0.050	ug/l							
Arsenic	ND	1.0	0.70	ug/l							
Barium	ND	1.0	0.15	ug/l							
Beryllium	ND	0.50	0.075	ug/l							
Cadmium	ND	1.0	0.050	ug/l							
Chromium	ND	2.0	0.70	ug/l							
Cobalt	ND	1.0	0.15	ug/l							
Copper	ND	2.0	0.40	ug/l							
Lead	ND	1.0	0.10	ug/l							
Molybdenum	ND	2.0	0.15	ug/l							
Nickel	ND	2.0	0.90	ug/l							
Selenium	ND	2.0	0.30	ug/l							
Silver	ND	1.0	0.10	ug/l							
Thallium	ND	1.0	0.15	ug/l							
Vanadium	ND	2.0	0.70	ug/l							
Zinc	ND	20	2.5	ug/l							
LCS Analyzed: 02/22/2007 (7B21161-BS1)											
Antimony	87.0	2.0	0.050	ug/l	80.0		109	80-120			
Arsenic	78.3	1.0	0.70	ug/l	80.0		98	80-120			
Barium	85.3	1.0	0.15	ug/l	80.0		107	80-120			
Beryllium	75.5	0.50	0.075	ug/l	80.0		94	80-120			
Cadmium	87.4	1.0	0.050	ug/l	80.0		109	80-120			
Chromium	78.2	2.0	0.70	ug/l	80.0		98	80-120			
Cobalt	81.1	1.0	0.15	ug/l	80.0		101	80-120			
Copper	83.0	2.0	0.40	ug/l	80.0		104	80-120			
Lead	78.2	1.0	0.10	ug/l	80.0		98	80-120			
Molybdenum	81.6	2.0	0.15	ug/l	80.0		102	80-120			
Nickel	80.7	2.0	0.90	ug/l	80.0		101	80-120			
Selenium	81.2	2.0	0.30	ug/l	80.0		102	80-120			
Silver	83.6	1.0	0.10	ug/l	80.0		104	80-120			
Thallium	78.4	1.0	0.15	ug/l	80.0		98	80-120			
Vanadium	78.7	2.0	0.70	ug/l	80.0		98	80-120			
Zinc	87.2	20	2.5	ug/l	80.0		109	80-120			

TestAmerica - Irvine, CA
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 TestAmerica.

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7B21161 Extracted: 02/21/07											
Matrix Spike Analyzed: 02/22/2007 (7B21161-MS1)						**Source: IQB1486-02**					
Antimony	88.0	2.0	0.050	ug/l	80.0	ND	110	75-125			
Arsenic	78.5	1.0	0.70	ug/l	80.0	ND	98	75-125			
Barium	86.6	1.0	0.15	ug/l	80.0	ND	108	75-125			
Beryllium	75.0	0.50	0.075	ug/l	80.0	ND	94	75-125			
Cadmium	88.0	1.0	0.050	ug/l	80.0	ND	110	75-125			
Chromium	79.6	2.0	0.70	ug/l	80.0	ND	100	75-125			
Cobalt	82.1	1.0	0.15	ug/l	80.0	ND	103	75-125			
Copper	83.8	2.0	0.40	ug/l	80.0	ND	105	75-125			
Lead	78.6	1.0	0.10	ug/l	80.0	ND	98	75-125			
Molybdenum	83.0	2.0	0.15	ug/l	80.0	ND	104	75-125			
Nickel	81.9	2.0	0.90	ug/l	80.0	ND	102	75-125			
Selenium	80.0	2.0	0.30	ug/l	80.0	ND	100	75-125			
Silver	84.7	1.0	0.10	ug/l	80.0	ND	106	75-125			
Thallium	78.6	1.0	0.15	ug/l	80.0	ND	98	75-125			
Vanadium	79.1	2.0	0.70	ug/l	80.0	ND	99	75-125			
Zinc	85.3	20	2.5	ug/l	80.0	ND	107	75-125			
Matrix Spike Dup Analyzed: 02/22/2007 (7B21161-MSD1)						**Source: IQB1486-02**					
Antimony	88.7	2.0	0.050	ug/l	80.0	ND	111	75-125	1	20	
Arsenic	79.4	1.0	0.70	ug/l	80.0	ND	99	75-125	1	20	
Barium	87.8	1.0	0.15	ug/l	80.0	ND	110	75-125	1	20	
Beryllium	75.5	0.50	0.075	ug/l	80.0	ND	94	75-125	1	20	
Cadmium	88.1	1.0	0.050	ug/l	80.0	ND	110	75-125	0	20	
Chromium	80.2	2.0	0.70	ug/l	80.0	ND	100	75-125	1	20	
Cobalt	83.0	1.0	0.15	ug/l	80.0	ND	104	75-125	1	20	
Copper	84.6	2.0	0.40	ug/l	80.0	ND	106	75-125	1	20	
Lead	79.6	1.0	0.10	ug/l	80.0	ND	100	75-125	1	20	
Molybdenum	84.2	2.0	0.15	ug/l	80.0	ND	105	75-125	1	20	
Nickel	82.4	2.0	0.90	ug/l	80.0	ND	103	75-125	1	20	
Selenium	81.3	2.0	0.30	ug/l	80.0	ND	102	75-125	2	20	
Silver	85.7	1.0	0.10	ug/l	80.0	ND	107	75-125	1	20	
Thallium	80.3	1.0	0.15	ug/l	80.0	ND	100	75-125	2	20	
Vanadium	80.3	2.0	0.70	ug/l	80.0	ND	100	75-125	2	20	
Zinc	86.7	20	2.5	ug/l	80.0	ND	108	75-125	2	20	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7B14065 Extracted: 02/14/07											
Blank Analyzed: 02/14/2007 (7B14065-BLK1)											
Chromium VI	ND	0.0020	0.00020	mg/l							
LCS Analyzed: 02/14/2007 (7B14065-BS1)											
Chromium VI	0.0501	0.0020	0.00020	mg/l	0.0500		100	90-110			
Matrix Spike Analyzed: 02/14/2007 (7B14065-MS1)						**Source: IQB1205-05**					
Chromium VI	0.0530	0.0020	0.00020	mg/l	0.0500	0.0031	100	80-115			
Matrix Spike Dup Analyzed: 02/14/2007 (7B14065-MSD1)						**Source: IQB1205-05**					
Chromium VI	0.0555	0.0020	0.00020	mg/l	0.0500	0.0031	105	80-115	5	15	
Batch: 7B22154 Extracted: 02/22/07											
Blank Analyzed: 02/22/2007 (7B22154-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 02/22/2007 (7B22154-BS1)											
Perchlorate	53.9	4.0	0.80	ug/l	50.0		108	85-115			
Matrix Spike Analyzed: 02/22/2007 (7B22154-MS1)						**Source: IQB1432-04**					
Perchlorate	95.6	4.0	0.80	ug/l	50.0	46	99	80-120			
Matrix Spike Dup Analyzed: 02/22/2007 (7B22154-MSD1)						**Source: IQB1432-04**					
Perchlorate	94.9	4.0	0.80	ug/l	50.0	46	98	80-120	1	20	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

MWH-San Diego/Boeing	Project ID: SSFL Group 8 - DOE	
9444 Farnham Street, Suite 300	1891264	Sampled: 02/14/07
San Diego, CA 92123	Report Number: IQB1486	Received: 02/14/07
Attention: Lisa J. Tucker		

DATA QUALIFIERS AND DEFINITIONS

MNR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.

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.

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

Certification Summary

TestAmerica - Irvine, CA

Method	Matrix	Nelac	California
EPA 314.0	Water	N/A	X
EPA 6010B	Water	X	X
EPA 6020	Water	X	X
EPA 7199	Water	X	X
EPA 8015B	Water	X	X
EPA 8082	Water	X	X

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

Subcontracted Laboratories

Calscience-SUB *California Cert #1230*
7440 Lincoln Way - Garden Grove, CA 92841
Analysis Performed: 8270C (SIM)
Samples: IQB1486-02

Paradigm Labs - SUB
5500 Business Dr. - Wilmington, NC 28405
Analysis Performed: 1613-Dioxin-HR OUT
Samples: IQB1486-02

STL- Denver
4955 Yarrow Street - Arvada, CO 80002
Analysis Performed: 8330-Nitroaromatics
Samples: IQB1486-02

Weck Laboratories, Inc
14859 E. Clark Avenue - City of Industry, CA 91745
Analysis Performed: Mercury-7470/7471
Samples: IQB1486-02

TestAmerica - Irvine, CA
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 TestAmerica.

Calscience
Environmental
Laboratories, Inc.

February 26, 2007

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

Subject: Calscience Work Order No.: 07-02-0978
Client Reference: IQB1486

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 2/15/2007 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 subcontracted analysis, if any, 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 07-02-0978

Sample Condition on Receipt

One aqueous sample was received as part of this Work Order on February 15, 2007. The sample was 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 were 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, with the exception of specific analytes by EPA Method 8270C SIM. Please see Table A for details.

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX:(714) 894-7501

Calscience Environmental Laboratories, Inc.

Case Narrative for 07-02-0978

Table A: Matrix Spike / Matrix Spike Duplicate outside acceptable limits	
EPA Method 8270C SIM	
Batch #	Analytes(s)
070215S09	2,4,5-Trichlorophenol, 2,4-Dichlorophenol, 2-Methylphenol‡, 2-Nitrophenol, 4-Chloro-3-Methylphenol, Acenaphthene, Di-n-Butyl Phthalate, Dimethyl Phthalate, Fluorene, N-Nitrosodimethylamine‡, Naphthalene, Phenol‡ & Pyrene

‡: As a direct result of the unacceptable recoveries for the MS and/or MSD, the relative percent difference was also outside acceptable limits. These recoveries have also been flagged with a "4" qualifier.

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 #: **07-02-0978** **QAPP:** **0000**

#	Client Sample ID	Matrix	Date Collected	NoC	Comment
1	IQB1486-02	W	02/14/2007	1	

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 07 - 0 2 - 0 9 7 8

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: TEST AMERICA **DATE:** 2-15-07

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.
3.1 °C IR thermometer.
_____ Ambient temperature.

Initial: WB

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Present: ✓

Initial: WB

SAMPLE CONDITION:

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

Initial: WB

COMMENTS:

TestAmerica
ANALYTICAL TESTING CORPORATION

SUBCONTRACT ORDER - PROJECT # IQB1486

SENDING LABORATORY:
TestAmerica - Irvine, CA
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Michele Chamberlin

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

Project Location: California

Work Order Comments: Level 4 QC. Boeing EDD, Report to MDL w/ J flags, report in dry weight, 2 week TAT.

Standard TAT is requested unless specific due date is requested => Due Date: 2-22-07 **Initials:** HE

Analysis	Expiration	Comments
Sample ID: IQB1486-02 Water Sampled: 02/14/07 09:00		
8270C (SIM)-OUT	02/21/07 09:00	NDMA+PAHS+phthltes(1 run).Sub=Calsci,calc w/ sx wt
Level 3 Data Package - Out	03/14/07 09:00	Sub to Calscience,TA Lvl IV,EDD=Boeing

Containers Supplied:
1 L Amber (IQB1486-02G)

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
[signature]	02/15/07	0715	[signature] TAZ	02/15/07	0715
[signature] TAZ	02/15/07	0816	[signature] CEL	2-15-07	0814

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 02/15/07
Work Order No: 07-02-0978
Preparation: EPA 3510B
Method: EPA 8270C SIM

Project ID B1486

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
07-02-1051-1	Aqueous	GC/MS N	02/16/07	02/22/07	070216S06

Parameter	MS % REC	MSD % REC	% REC CL	RPD	RPD CL	Qualifiers
2,4,5-Trichlorophenol	18	17	40-160	6	0-20	3
2,4-Dichlorophenol	20	18	40-160	10	0-20	3
2-Methylphenol	36	26	40-160	30	0-20	3,4
2-Nitrophenol	24	21	40-160	11	0-20	3
4-Chloro-3-Methylphenol	23	21	40-160	10	0-20	3
Acenaphthene	848	792	49-121	6	0-20	3
Benzo (a) Pyrene	57	55	40-160	3	0-20	
Chrysene	52	51	40-160	2	0-20	
Di-n-Butyl Phthalate	22	22	40-160	3	0-20	3
Dimethyl Phthalate	22	21	40-160	5	0-20	3
Fluoranthene	57	55	40-160	4	0-20	
Fluorene	54	51	40-160	6	0-20	
N-Nitrosodimethylamine	20	15	40-160	27	0-20	3,4
Naphthalene	40	36	40-160	8	0-20	3
Phenanthrene	52	50	40-160	4	0-20	
Phenol	18	14	40-160	27	0-20	3,4
Pyrene	1128	1100	18-168	2	0-22	3

RPD - Relative Percent Difference, CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control-LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 07-02-0978
Preparation: EPA 3510B
Method: EPA 8270C SIM

Project: IQB1486

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-430-13	Aqueous	GC/MSN	02/16/07	02/21/07	070216L06

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2,4,5-Trichlorophenol	86	88	40-160	2	0-20	
2,4-Dichlorophenol	91	92	40-160	1	0-20	
2-Methylphenol	105	103	40-160	2	0-20	
2-Nitrophenol	86	105	40-160	20	0-20	
4-Chloro-3-Methylphenol	108	110	40-160	2	0-20	
Acenaphthene	106	106	55-121	0	0-15	
Benzo (a) Pyrene	113	115	17-163	1	0-20	
Chrysene	105	105	17-168	0	0-20	
Di-n-Butyl Phthalate	115	112	40-160	3	0-20	
Dimethyl Phthalate	110	109	40-160	1	0-20	
Fluoranthene	113	114	26-137	1	0-20	
Fluorene	108	109	59-121	1	0-20	
N-Nitrosodimethylamine	104	108	40-160	4	0-20	
Naphthalene	102	102	21-133	1	0-20	
Phenanthrene	102	104	54-120	2	0-20	
Phenol	94	93	40-160	1	0-20	
Pyrene	116	111	45-129	4	0-15	

RPD - Relative Percent Difference, CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 07-02-0978

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.

SGS

Laboratory Results

Ms. Michele Chamberlin
Test America
17461 Derian Ave.
Suite 100
Irvine CA 92614

Phone: 949-261-1022
Fax:

Dear Ms. Chamberlin:

Enclosed is a full data package containing the final results for the sample received by Paradigm Analytical Labs, Inc. on February 16, 2007 under your project name "IQB1486". The sample was analyzed by Method 1613 following Paradigm's Standard Operating Procedures and is certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards.

Number of Samples Received:	14
Your Project Reference:	IQB1486
PAL Project Number:	G579-223

We appreciate your business and look forward to working with you again. Please contact me at 910-350-1903 if you have questions or need additional technical support.

Sincerely,

Christopher K. Cornwell
Assistant Director

2/22/07
Date

5500 Business Dr., Wilmington, NC 28405 t (910) 350-1903 f (910) 350-1557 www.sgs.com

Member of the SGS Group

SGS

Case Narrative
SGS Project: **G579-223**
Project Name: **IBQ1486**

For Method: 1613

- The submitted sample was accepted into the lab on February 16th, 2007 and extracted on February 19th, 2007 by method 3520C. The sample extract and associated QC extracts were then processed through clean-up by method 3630/3620 and analyzed by HRGC/HRMS for methods 1613.

Craig R. Tronzo 2/22/07
Craig R. Tronzo
Data Validation/QA Officer

Secondary Review

W. Mike Larkins Date
Technical Director

Or

Heather Patterson 22Feb07
Heather Patterson Date
Director

SGS

List of Qualifiers

B Analyte was detected in the Lab Method Blank at a level above the Reporting Limit.

EDL "Estimated Detection Limit"

EMPC "Estimated Maximum Possible Concentration"

ppt Parts-per-trillion (pg/g; ng/L)

V Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit.

Outside quality control limits

* See case narrative

An average uncertainty of 30% can be routinely achieved as concluded from the evaluation of HRGC-HRMS standard operating procedures. The following flags warn the data user of situations where the uncertainty may be greater than stated.

A Amount detected is less than the Lower Calibration Limit.

J Amount detected is between the Method Detection Limit and the Lower Calibration Limit.

E Amount detected is greater than the Upper Calibration Limit.

S The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s).

Q Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s).

I Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s).

DPE Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s).

SGS

Toxic Equivalency Factors

Analyte	WHO* 1998	WHO* 2005	International-89	MADEP+
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	1	1	0.5	0.5
1,2,3,4,7,8-HxCDD	0.1	0.1	0.1	0.1
1,2,3,6,7,8-HxCDD	0.1	0.1	0.1	0.1
1,2,3,7,8,9-HxCDD	0.1	0.1	0.1	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.01	0.1
OCDD	0.0001	0.0003	0.001	0.001
2,3,7,8-TCDF	0.1	0.1	0.1	0.1
1,2,3,7,8-PeCDF	0.05	0.03	0.05	0.5
2,3,4,7,8-PeCDF	0.5	0.3	0.5	0.5
1,2,3,4,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1	0.1	0.1
1,2,3,4,6,7,8-HpCDF	0.01	0.01	0.01	0.1
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	0.1
OCDF	0.0001	0.0003	0.001	0.001

* World Health Organization
+ Massachusetts Department of Environmental Protection

Method 1613 - Blank Results

LMB

Analytical Data Summary Sheet

Analyte	Amount (ng/L)	EDL (ng/L)	Adj. RL (ng/L)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.00541	0.0100			
1,2,3,7,8-PeCDD	ND	0.00171	0.0500			
1,2,3,4,7,8-HxCDD	ND	0.00259	0.0500			
1,2,3,6,7,8-HxCDD	ND	0.00264	0.0500			
1,2,3,7,8,9-HxCDD	ND	0.00259	0.0500			
1,2,3,4,6,7,8-HpCDD	ND	0.00471	0.0500			
OCDD	ND	0.0106	0.100			
2,3,7,8-TCDF	ND	0.00342	0.0100			
1,2,3,7,8-PeCDF	ND	0.00118	0.0500			
2,3,4,7,8-PeCDF	0.00204	0.00122	0.0500	33:55	1.36	A
1,2,3,4,7,8-HxCDF	ND	0.00147	0.0500			
1,2,3,6,7,8-HxCDF	ND	0.00142	0.0500			
2,3,4,6,7,8-HxCDF	0.00144	0.00135	0.0500	36:33	1.12	A
1,2,3,7,8,9-HxCDF	0.00248	0.00238	0.0500	37:20	1.06	A
1,2,3,4,6,7,8-HpCDF	ND	0.00261	0.0500			
1,2,3,4,7,8,9-HpCDF	ND	0.00488	0.0500			
OCDF	ND	0.00824	0.100			
Total TCDDs	ND	0.00541	0.0100			
Total PeCDDs	ND	0.00171	0.0500			
Total HxCDDs	ND	0.00261	0.0500			
Total HpCDDs	ND	0.00471	0.0500			
Total TCDFs	ND	0.00342	0.0100			
Total PeCDFs	0.00204	0.00120	0.0500			A
Total HxCDFs	0.00248	0.00160	0.0500			A
Total HpCDFs	ND	0.00354	0.0500			
ITEF TEQ (ND=0)	0.00141					
ITEF TEQ (ND=½)	0.00535					

Sample Information

Matrix:	Water	
Weight / Volume:	1000	mL
Solids / Lipids:	NA	%
Original pH :	5	
Batch ID:	WG14121	
Filename:	a21feb07a-4	
Retchk:	a21feb07a-1	
Begin ConCal:	a21feb07a-1	
Initial Cal:	m1613-071006e	

Laboratory Information

Sample ID:	LMB14121	
Extraction Date:	19-Feb-07	
Analysis Date:	21-Feb-07	17:46

Method 1613 - Blank Results

LMB

Analytical Data Summary Sheet

Labeled Standard	Expected Amount (ng)	Measured Amount (ng)	Percent Recovery (%)	RT (min.)	Ratio	Qualifier
Extraction Standards						
$^{13}C_{12}$-2,3,7,8-TCDD	2.00	1.56	77.8	31:14	0.78	
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.00	1.39	69.6	34:06	1.58	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	2.00	1.60	79.8	36:40	1.26	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	2.00	1.71	85.4	36:45	1.26	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.00	1.28	64.2	40:02	1.06	
$^{13}C_{12}$-OCDD	4.00	1.88	46.9	44:14	0.89	
$^{13}C_{12}$-2,3,7,8-TCDF	2.00	1.62	80.9	30:33	0.78	
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.00	1.52	76.0	33:18	1.60	
$^{13}C_{12}$-2,3,4,7,8-PeCDF	2.00	1.40	70.2	33:54	1.61	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	2.00	1.71	85.3	35:58	0.53	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	2.00	1.74	87.1	36:04	0.51	
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	2.00	1.79	89.4	36:33	0.52	
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.00	1.44	71.8	37:19	0.52	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.00	1.41	70.6	38:48	0.44	
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	2.00	1.19	59.3	40:43	0.44	
Cleanup Standards						
$^{37}Cl_4$-2,3,7,8-TCDD	0.400	0.309	77.3	31:15	-	
Injection Standards						
$^{13}C_{12}$-1,2,3,4-TCDD	2.00			30:44	0.78	
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	2.00			37:00	1.26	

Sample Information

Matrix:	Water	
Weight / Volume:	1000	mL
Solids / Lipids:	NA	%
Original pH :	5	
Batch ID:	WG14121	
Filename:	a21feb07a-4	
Retchk:	a21feb07a-1	
Begin ConCal:	a21feb07a-1	
Initial Cal:	m1613-071006e	

Laboratory Information

Sample ID:	LMB14121	
Extraction Date:	19-Feb-07	
Analysis Date:	21-Feb-07	17:46

Analyzed by: [illegible]
Date: 02-22-07

Reviewed by: [illegible]
Date: 2/27/07

Analytical Results
for
Ongoing Precision Result (OPR)

Analyte	Spiked	AMT	REC	Range pg/ul		Flag
	pg/ul	pg/ul	%	Lower	Upper	
2,3,7,8-TCDD	10.0	9.84	98.4	6.70	15.8	
1,2,3,7,8-PeCDD	50.0	50.6	101	35.0	71.0	
1,2,3,4,7,8-HxCDD	50.0	53.2	106	35.0	82.0	
1,2,3,6,7,8-HxCDD	50.0	53.8	108	38.0	67.0	
1,2,3,7,8,9-HxCDD	50.0	49.1	98.1	32.0	81.0	
1,2,3,4,6,7,8-HpCDD	50.0	50.7	101	35.0	70.0	
OCDD	100	98.5	98.5	78.0	144	
2,3,7,8-TCDF	10.0	9.34	93.4	7.50	15.8	
1,2,3,7,8-PeCDF	50.0	53.6	107	40.0	67.0	
2,3,4,7,8-PeCDF	50.0	52.4	105	34.0	80.0	
1,2,3,4,7,8-HxCDF	50.0	51.7	103	36.0	67.0	
1,2,3,6,7,8-HxCDF	50.0	51.7	103	42.0	65.0	
2,3,4,6,7,8-HxCDF	50.0	51.4	103	35.0	78.0	
1,2,3,7,8,9-HxCDF	50.0	51.7	103	39.0	65.0	
1,2,3,4,6,7,8-HpCDF	50.0	53.2	106	41.0	61.0	
1,2,3,4,7,8,9-HpCDF	50.0	50.2	100	39.0	69.0	
OCDF	100	97.7	97.7	63.0	170	

= Outside range limits
* = Ion Ratio Out

QC Information

OPR Lab ID: OPR14121
Extraction Date: 19-Feb-07
Analysis Date: 21-Feb-07
Method: 1613

Sample Information

Matrix: Water

File Information

OPR Filename : a21feb07a-2
Retchk: a21feb07a-1
Begin ConCal: a21feb07a-1

Initial Cal: m1613-071006e

Analytical Results
for
Ongoing Precision Result (OPR)

Labeled Standard	Spiked pg/ul	AMT pg/ul	REC %	Range pg/ul Lower	Range pg/ul Upper	Flag
Extraction Standards						
$^{13}C_{12}$-2,3,7,8-TCDD	100	67.8	67.8	20.0	175	
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	61.1	61.1	21.0	227	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	73.2	73.2	21.0	193	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	78.2	78.2	25.0	163	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	57.9	57.9	26.0	166	
$^{13}C_{12}$-OCDD	200	80.2	40.1	26.0	397	
$^{13}C_{12}$-2,3,7,8-TCDF	100	72.7	72.7	22.0	152	
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	69.6	69.6	21.0	192	
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	63.6	63.6	13.0	328	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	79.7	79.7	19.0	202	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	79.7	79.7	21.0	159	
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	79.2	79.2	22.0	176	
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	64.8	64.8	17.0	205	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	63.2	63.2	21.0	158	
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	53.7	53.7	20.0	186	
Cleanup Standards						
$^{37}C_{14}$-2,3,7,8-TCDD	20.0	14.9	74.3	6.20	38.2	

Form Version:[OPRv3.474]1613

QC Information

OPR Lab ID: OPR14121
Extraction Date: 19-Feb-07
Analysis Date: 21-Feb-07
Method: 1613

File Information

OPR Filename : a21feb07a-2
Retchk: a21feb07a-1
Begin ConCal: a21feb07a-1
Initial Cal: m1613-071006e

Sample Information

Matrix: Water

Reviewed by: GAL

Date Reviewed: 2/22/07

TestAmerica
ANALYTICAL TESTING CORPORATION

SUBCONTRACT ORDER - PROJECT # IQB1486 G579-223

SENDING LABORATORY:
TestAmerica - Irvine, CA
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:
Paradigm Labs - SUB
5500 Business Dr.
Wilmington, NC 28405
Phone :(910) 350-1903
Fax: (910) 350-1557

Project Location: California

Work Order Comments: Level 4 QC. Boeing EDD, Report to MDL w/ J flags, report in dry weight, 2 week TAT.

Standard TAT is requested unless specific due date is requested => Due Date: 2-22-07 **Initials:** HE

Analysis	Expiration	Comments
Sample ID: IQB1486-02 Water	**Sampled: 02/14/07 09:00**	
1613-Dioxin-HR OUT	02/21/07 09:00	Sub=Paradigm,17 cngnrs,dry wt(soil), 2 wkTAT,Jflag
Level 4 + EDD-OUT	03/14/07 09:00	Sub to Paradigm, TAT=2 weeks, EDD=Boeing, CD

Containers Supplied:
1 L Amber (IQB1486-02H)

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): 2.0°C

Released By	Date	Time	Received By	Date	Time
[signature]	2/14/07		[signature]	2/16/07	11:55am

SEVERN TRENT STL

STL Denver
4955 Yarrow Street
Arvada, CO 80002

Tel: 303 736 0100 Fax: 303 431 7171
www.stl-inc.com

ANALYTICAL REPORT

Project: IQB1486

STL Denver Lot #: D7B160280

Michele Chamberlin

TestAmerica, Inc.
17461 Derian Avenue
Suite100
Irvine, CA 92614

Patrick J. McEntee
Project Manager

March 1, 2007

Table Of Contents

Standard Deliverables with Supporting Documentation

Report Contents	Number of Pages
Standard Deliverables *(The **Cover Letter** and the **Report Cover** page are considered integral parts of this Standard Deliverable package. This report is incomplete unless all pages indicated in this Table of Contents are included.)*	
• **Table of Contents**	
• **Case Narrative**	
• **Executive Summary – Detection Highlights**	
• **Methods Summary**	
• **Method/Analyst Summary**	
• **Lot Sample Summary**	
• **Analytical Results**	
• **QC Data Association Summary**	
• **Chain-of-Custody**	

Supporting Documentation *(Note: A one-page "Description of Supporting Documentation" is provided at the beginning of this section.).*	**Check below when supporting documentation is present.**
• **Volatile GC/MS**	
• **Semivolatile GC/MS**	
• **Volatile GC**	
• **Semivolatile GC**	
• **LC/MS or HPLC**	X
• **Metals**	
• **General Chemistry**	
• **Subcontracted Data**	

Sample Delivery Group Case Narrative

The results included in this report have been reviewed for compliance with STL's Quality Assurance/Quality Control (QA/QC) plan. The test results shown in this report meet all requirements of NELAC. STL Denver is NELAP approved for all parameters reported. Any exceptions are noted below.

Dilution factors and footnotes have been provided to assist in the interpretation of the results. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interferences or analytes present at concentrations above the linear calibration curve, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

STL utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. A summary of quality control parameters is provided below.

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Quality Control Summary for Lot D7B160280

Sample Receiving
STL Denver received one aqueous sample under chain of custody on February 16, 2007.

The cooler temperature at receipt was acceptable at 4.7°C.

The sample container was received intact.

Holding Times
All analyses were performed within prescribed holding times.

Method SW846 8330, Explosives by HPLC
The LCS/LCSD for prep batch 7050257 exhibited recoveries below the QC limits for 2,4,6-trinitrotolune and tetryl and above QC limits for 4-amino-2,6-dinitrotoluene. The spike mix used for the LCS and LCSD was then shot directly on the instrument and both tetryl and 2,4,6-trinitrotoluene recovered low at 1.2% and 8.6%, respectively and 4-amino-2,6-dinitrotoluene high at 147%. This explains the failures in the LCS/LCSD. The spike mix was disposed of and a new spike mix was prepared. The batch was re-extracted and reanalyzed (unavoidably) outside the recommended sample holding time. Upon reanalysis, the LCS/LCSD were in control. Both sets of data have been reported, as requested by the client.

The method required MS/MSD could not be performed for the prep batches, due to insufficient sample volume submitted. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

No other anomalies were observed.

EXECUTIVE SUMMARY - Detection Highlights

D7B160280

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD

NO DETECTABLE PARAMETERS

METHODS SUMMARY

D7B160280

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Nitroaromatics and Nitramines by HPLC	SW846 8330	SW846 3535

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

METHOD / ANALYST SUMMARY

D7B160280

ANALYTICAL METHOD	ANALYST	ANALYST ID
SW846 8330	Carrie Lahr	008835

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

D7B160280

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JPKW4	001	IQB1486-02	02/14/07	09:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

QC DATA ASSOCIATION SUMMARY

D7B160280

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 8330		7050257	
	WATER	SW846 8330		7054564	

METHOD BLANK REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JPM0K1AA **Matrix.....:** WATER
MB Lot-Sample #: D7B190000-257

Prep Date.....: 02/19/07 **Analysis Time..:** 11:42

Analysis Date..: 02/23/07 **Prep Batch #...:** 7050257
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,3-Dinitrobenzene	ND	0.40	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	0.40	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
Nitrobenzene	ND	0.40	ug/L	SW846 8330
Nitroglycerin	ND	3.0	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	1.0	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	0.40	ug/L	SW846 8330
HMX	ND	0.40	ug/L	SW846 8330
RDX	ND	0.20	ug/L	SW846 8330
Tetryl	ND	0.20	ug/L	SW846 8330
2-Nitrotoluene	ND	0.40	ug/L	SW846 8330
3-Nitrotoluene	ND	0.40	ug/L	SW846 8330
4-Nitrotoluene	ND	1.0	ug/L	SW846 8330
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
PETN	ND	2.0	ug/L	SW846 8330
2,4-diamino-6-nitrotoluen	ND	1.0	ug/L	SW846 8330
2,6-diamino-4-nitrotoluen	ND	1.0	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	96	(75 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JP2QM1AA **Matrix.....:** WATER
MB Lot-Sample #: D7B230000-564

Prep Date.....: 02/23/07 **Analysis Time..:** 18:54

Analysis Date..: 02/27/07 **Prep Batch #...:** 7054564
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,3-Dinitrobenzene	ND	0.40	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	0.40	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
Nitrobenzene	ND	0.40	ug/L	SW846 8330
Nitroglycerin	ND	3.0	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	1.0	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	0.40	ug/L	SW846 8330
HMX	ND	0.40	ug/L	SW846 8330
RDX	ND	0.20	ug/L	SW846 8330
Tetryl	ND	0.20	ug/L	SW846 8330
2-Nitrotoluene	ND	0.40	ug/L	SW846 8330
3-Nitrotoluene	ND	0.40	ug/L	SW846 8330
4-Nitrotoluene	ND	1.0	ug/L	SW846 8330
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
PETN	ND	2.0	ug/L	SW846 8330
2,4-diamino-6-nitrotoluen	ND	1.0	ug/L	SW846 8330
2,6-diamino-4-nitrotoluen	ND	1.0	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	97	(75 - 118)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JPM0K1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D7B190000-257 JPM0K1AD-LCSD
Prep Date.....: 02/19/07 **Analysis Date..:** 02/22/07
Prep Batch #...: 7050257 **Analysis Time..:** 16:55
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,3-Dinitrobenzene	102	(78 - 115)			SW846 8330
	101	(78 - 115)	1.2	(0-19)	SW846 8330
1,3,5-Trinitrobenzene	112	(73 - 122)			SW846 8330
	110	(73 - 122)	1.6	(0-21)	SW846 8330
2-Amino-4,6-dinitrotoluene	106	(75 - 115)			SW846 8330
	105	(75 - 115)	0.14	(0-18)	SW846 8330
2-Nitrotoluene	81	(35 - 115)			SW846 8330
	84	(35 - 115)	4.4	(0-43)	SW846 8330
2,4-Dinitrotoluene	101	(75 - 115)			SW846 8330
	103	(75 - 115)	1.4	(0-21)	SW846 8330
2,4,6-Trinitrotoluene	24 a	(73 - 116)			SW846 8330
	23 a	(73 - 116)	2.2	(0-19)	SW846 8330
2,6-Dinitrotoluene	103	(77 - 115)			SW846 8330
	102	(77 - 115)	1.3	(0-20)	SW846 8330
3-Nitrotoluene	95	(30 - 115)			SW846 8330
	92	(30 - 115)	3.0	(0-74)	SW846 8330
4-Amino-2,6-dinitrotoluene	130 a	(57 - 115)			SW846 8330
	129 a	(57 - 115)	0.42	(0-22)	SW846 8330
4-Nitrotoluene	90	(40 - 115)			SW846 8330
	92	(40 - 115)	2.7	(0-44)	SW846 8330
HMX	99	(78 - 115)			SW846 8330
	99	(78 - 115)	0.75	(0-26)	SW846 8330
Nitrobenzene	92	(51 - 115)			SW846 8330
	90	(51 - 115)	1.9	(0-32)	SW846 8330
RDX	98	(69 - 118)			SW846 8330
	97	(69 - 118)	0.82	(0-37)	SW846 8330
Tetryl	6.2 a	(69 - 127)			SW846 8330
	5.6 a	(69 - 127)	11	(0-24)	SW846 8330
Nitroglycerin	104	(71 - 126)			SW846 8330
	103	(71 - 126)	1.0	(0-21)	SW846 8330
PETN	98	(67 - 107)			SW846 8330
	100	(67 - 107)	2.5	(0-30)	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	104	(75 - 118)
	115	(75 - 118)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JPM0K1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D7B190000-257 JPM0K1AD-LCSD

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE DATA REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JPM0K1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D7B190000-257 JPM0K1AD-LCSD
Prep Date.....: 02/19/07 **Analysis Date..:** 02/22/07
Prep Batch #...: 7050257 **Analysis Time..:** 16:55
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,3-Dinitrobenzene	2.00	2.04	ug/L	102		SW846 8330
	2.00	2.02	ug/L	101	1.2	SW846 8330
1,3,5-Trinitrobenzene	2.00	2.24	ug/L	112		SW846 8330
	2.00	2.21	ug/L	110	1.6	SW846 8330
2-Amino-4,6-dinitrotoluene	2.00	2.11	ug/L	106		SW846 8330
	2.00	2.11	ug/L	105	0.14	SW846 8330
2-Nitrotoluene	2.00	1.62	ug/L	81		SW846 8330
	2.00	1.69	ug/L	84	4.4	SW846 8330
2,4-Dinitrotoluene	2.00	2.03	ug/L	101		SW846 8330
	2.00	2.06	ug/L	103	1.4	SW846 8330
2,4,6-Trinitrotoluene	2.00	0.476 a	ug/L	24		SW846 8330
	2.00	0.466 a	ug/L	23	2.2	SW846 8330
2,6-Dinitrotoluene	2.00	2.06	ug/L	103		SW846 8330
	2.00	2.03	ug/L	102	1.3	SW846 8330
3-Nitrotoluene	2.00	1.89	ug/L	95		SW846 8330
	2.00	1.84	ug/L	92	3.0	SW846 8330
4-Amino-2,6-dinitrotoluene	2.00	2.60 a	ug/L	130		SW846 8330
	2.00	2.58 a	ug/L	129	0.42	SW846 8330
4-Nitrotoluene	2.00	1.79	ug/L	90		SW846 8330
	2.00	1.84	ug/L	92	2.7	SW846 8330
HMX	2.00	1.99	ug/L	99		SW846 8330
	2.00	1.97	ug/L	99	0.75	SW846 8330
Nitrobenzene	2.00	1.84	ug/L	92		SW846 8330
	2.00	1.80	ug/L	90	1.9	SW846 8330
RDX	2.00	1.95	ug/L	98		SW846 8330
	2.00	1.93	ug/L	97	0.82	SW846 8330
Tetryl	2.00	0.124 a	ug/L	6.2		SW846 8330
	2.00	0.112 a	ug/L	5.6	11	SW846 8330
Nitroglycerin	20.0	20.7	ug/L	104		SW846 8330
	20.0	20.5	ug/L	103	1.0	SW846 8330
PETN	20.0	19.6	ug/L	98		SW846 8330
	20.0	20.1	ug/L	100	2.5	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	104	(75 - 118)
	115	(75 - 118)

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JPM0K1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D7B190000-257 JPM0K1AD-LCSD

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JP2QM1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D7B230000-564 JP2QM1AD-LCSD
Prep Date.....: 02/23/07 **Analysis Date..:** 02/27/07
Prep Batch #...: 7054564 **Analysis Time..:** 19:30
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,3-Dinitrobenzene	92	(78 - 115)			SW846 8330
	91	(78 - 115)	0.38	(0-19)	SW846 8330
1,3,5-Trinitrobenzene	93	(73 - 122)			SW846 8330
	98	(73 - 122)	5.3	(0-21)	SW846 8330
2-Amino-4,6-dinitrotoluene	99	(75 - 115)			SW846 8330
	97	(75 - 115)	1.7	(0-18)	SW846 8330
2-Nitrotoluene	74	(35 - 115)			SW846 8330
	68	(35 - 115)	8.6	(0-43)	SW846 8330
2,4-Dinitrotoluene	95	(75 - 115)			SW846 8330
	94	(75 - 115)	0.84	(0-21)	SW846 8330
2,4,6-Trinitrotoluene	92	(73 - 116)			SW846 8330
	92	(73 - 116)	0.76	(0-19)	SW846 8330
2,6-Dinitrotoluene	94	(77 - 115)			SW846 8330
	93	(77 - 115)	1.2	(0-20)	SW846 8330
3-Nitrotoluene	84	(30 - 115)			SW846 8330
	79	(30 - 115)	5.5	(0-74)	SW846 8330
4-Amino-2,6-dinitrotoluene	86	(57 - 115)			SW846 8330
	80	(57 - 115)	7.7	(0-22)	SW846 8330
4-Nitrotoluene	82	(40 - 115)			SW846 8330
	76	(40 - 115)	8.5	(0-44)	SW846 8330
HMX	91	(78 - 115)			SW846 8330
	91	(78 - 115)	0.21	(0-26)	SW846 8330
Nitrobenzene	83	(51 - 115)			SW846 8330
	80	(51 - 115)	4.3	(0-32)	SW846 8330
RDX	94	(69 - 118)			SW846 8330
	96	(69 - 118)	2.1	(0-37)	SW846 8330
Tetryl	88	(69 - 127)			SW846 8330
	90	(69 - 127)	2.3	(0-24)	SW846 8330
Nitroglycerin	95	(71 - 126)			SW846 8330
	89	(71 - 126)	6.0	(0-21)	SW846 8330
PETN	92	(67 - 107)			SW846 8330
	91	(67 - 107)	0.71	(0-30)	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	96	(75 - 118)
	104	(75 - 118)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JP2QM1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D7B230000-564 JP2QM1AD-LCSD

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JP2QM1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D7B230000-564 JP2QM1AD-LCSD
Prep Date.....: 02/23/07 **Analysis Date..:** 02/27/07
Prep Batch #...: 7054564 **Analysis Time..:** 19:30
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,3-Dinitrobenzene	2.00	1.84	ug/L	92		SW846 8330
	2.00	1.83	ug/L	91	0.38	SW846 8330
1,3,5-Trinitrobenzene	2.00	1.86	ug/L	93		SW846 8330
	2.00	1.97	ug/L	98	5.3	SW846 8330
2-Amino-4,6-dinitrotoluene	2.00	1.98	ug/L	99		SW846 8330
	2.00	1.95	ug/L	97	1.7	SW846 8330
2-Nitrotoluene	2.00	1.47	ug/L	74		SW846 8330
	2.00	1.35	ug/L	68	8.6	SW846 8330
2,4-Dinitrotoluene	2.00	1.91	ug/L	95		SW846 8330
	2.00	1.89	ug/L	94	0.84	SW846 8330
2,4,6-Trinitrotoluene	2.00	1.83	ug/L	92		SW846 8330
	2.00	1.85	ug/L	92	0.76	SW846 8330
2,6-Dinitrotoluene	2.00	1.88	ug/L	94		SW846 8330
	2.00	1.85	ug/L	93	1.2	SW846 8330
3-Nitrotoluene	2.00	1.67	ug/L	84		SW846 8330
	2.00	1.58	ug/L	79	5.5	SW846 8330
4-Amino-2,6-dinitrotoluene	2.00	1.72	ug/L	86		SW846 8330
	2.00	1.59	ug/L	80	7.7	SW846 8330
4-Nitrotoluene	2.00	1.65	ug/L	82		SW846 8330
	2.00	1.52	ug/L	76	8.5	SW846 8330
HMX	2.00	1.82	ug/L	91		SW846 8330
	2.00	1.83	ug/L	91	0.21	SW846 8330
Nitrobenzene	2.00	1.66	ug/L	83		SW846 8330
	2.00	1.59	ug/L	80	4.3	SW846 8330
RDX	2.00	1.89	ug/L	94		SW846 8330
	2.00	1.93	ug/L	96	2.1	SW846 8330
Tetryl	2.00	1.75	ug/L	88		SW846 8330
	2.00	1.79	ug/L	90	2.3	SW846 8330
Nitroglycerin	20.0	19.0	ug/L	95		SW846 8330
	20.0	17.9	ug/L	89	6.0	SW846 8330
PETN	20.0	18.4	ug/L	92		SW846 8330
	20.0	18.3	ug/L	91	0.71	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	96	(75 - 118)
	104	(75 - 118)

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

HPLC

Client Lot #...: D7B160280 **Work Order #...:** JP2QM1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: D7B230000-564 JP2QM1AD-LCSD

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

TestAmerica
ANALYTICAL TESTING CORPORATION

4-7 hl 2/16/07 IRZ

SUBCONTRACT ORDER - PROJECT # IQB1486

SENDING LABORATORY:
TestAmerica - Irvine, CA
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Michele Chamberlin

RECEIVING LABORATORY:
STL- Denver - sub
4955 Yarrow Street
Arvada, CO 80002
Phone :(303) 736-0100
Fax: (303) 431-7171

Project Location: California

Work Order Comments: Level 4 QC. Boeing EDD, Report to MDL w/ J flags, report in dry weight, 2 week TAT.

Standard TAT is requested unless specific due date is requested => Due Date: 2-22-07 **Initials:** HE

Analysis	Expiration	Comments
Sample ID: IQB1486-02 Water	**Sampled: 02/14/07 09:00**	
8330-Nitroaromatics-OUT	02/21/07 09:00	Boeing EDD,sub to STL-Den quote # 72743
Level 4 Data Package - Out	03/14/07 09:00	Sub to STL-Denver

Containers Supplied:
1 L Amber (IQB1486-02F)

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
[signature]	2/15/07		[signature]	2/16/07	0930

STL Denver

Sample Receiving Checklist

Lot #: D7B160280 Date/Time Received: 2/16/07 0930

Company Name & Sampling Site: Test America

PM to Complete This Section: *Yes* *No*
Residual chlorine check required: ☐ ☑ Quarantined : *Yes* ☐ *No* ☑

Quote #: 72743

Special Instructions: Log 8330 full list

Time Zone:
• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

Unpacking Checks:

Cooler #(s): 1

Temperatures (°C): 4.7

N/A	*Yes*	*No*		*Initials*
☐	☑	☐	1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.	
	☑	☐	2. Chain of custody present? If no, document on CUR.	
	☐	☑	3. Bottles broken and/or are leaking? If yes, document on CUR.	
	☐	☑	4. Multiphasic samples obvious? If yes, document on CUR.	
	☑	☐	5. Proper container & preservatives used? (ref. Attachment D of SOP# DEN-QA-0003) If no, document on CUR.	
☑	☐	☐	6. pH of all samples checked and meet requirements? If no, document on CUR.	
	☑	☐	7. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DEN-QA-0003) If no, document on CUR, and contact PM before proceeding.	
	☑	☐	8. Did chain of custody agree with labels ID and samples received? If no, document on CUR.	
☑	☐	☐	9. Were VOA samples without headspace? If no, document on CUR.	
☐	☐	☐	10. Were VOA vials preserved? Preservative ☐HCl ☐4±2°C ☐Sodium Thiosulfate ☐ Ascorbic Acid	
	☐	☑	11. Did samples require preservation with sodium thiosulfate?	
☐	☐	☐	12. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.	
☐	☐	☐	13. Sediment present in dissolved/filtered bottles? If yes, document on CUR.	
☐	☐	☐	14. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.	
	☐	☐	15. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.	
	☐	☐	16. Are analyses with short holding times requested?	
	☐	☐	17. Was a quick Turn Around (TAT) requested?	

STL Denver

Sample Receiving Checklist

Lot # D7B160280

Login Checks:

Initials AB

N/A	Yes	No		
	☑	☐	18.	Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DEN-QA-0003) If no, document on CUR, and contact PM before proceeding.
☑	☐	☐	19.	Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
	☑	☐	20.	Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
☐	☑	☐	21.	Were special log in instructions read and followed?
☑	☐	☐	22.	Were AFCEE metals logged for refrigerated storage?
	☑	☐	23.	Were tests logged checked against the COC? Which samples were confirmed? 1
☑	☐	☐	24.	Was a Rush form completed for quick TAT?
☑	☐	☐	25.	Was a Short Hold form completed for any short holds?
	☐	☑	26.	Is "Strict ICOC" required?
	☐	☑	27.	Were special archiving instructions indicated in the General Comments? If so, what were they?

Labeling and Storage Checks:

Initials [illegible]

☑	☐	☐	28.	Was the subcontract COC signed and sent with samples to bottle prep?
	☑	☐	29.	Were sample labels double-checked by a second person?
☑	☐	☐	30.	Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
	☑	☐	31.	Did the sample ID, Date, and Time from label match what was logged?
☐	☐	☐	32.	Were stickers for special archiving instructions affixed to each box and to the ICOC? See #27
☐	☐	☐	33.	Were AFCEE metals stored refrigerated?
☐	☐	☐	34.	Were "Strict ICOC" copies given to satellite storage areas?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).

Weck Laboratories, Inc.
Analytical Laboratory Services - Since 1964

14859 E. Clark Ave., Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634
info@wecklabs.com www.wecklabs.com

CERTIFICATE OF ANALYSIS

Client: TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine, CA 92614
Attention: Michele Chamberlin

Phone: (949) 261-1022
Fax: (949) 260-3297

Report Date: 03/02/07 19:09
Received Date: 02/15/07 10:10
Turn Around: 5 days

Work Order #: 7021519

Client Project: IQB1486

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear Michele Chamberlin :

Enclosed are the results of analyses for samples received 02/15/07 10:10 with the Chain of Custody document. The samples were received in good condition, at 5.7 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Reviewed by:

Taylor Maligmat

Taylor Maligmat
Project Manager

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

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

Report ID: 7021519
Project ID: IQB1486

Date Received: 02/15/07 10:10
Date Reported: 03/02/07 19:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IQB1486-02	client		7021519-01	Water	02/14/07 09:00

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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

TestAmerica, Inc. - Irvine 17461 Derian Ave, Suite 100 Irvine CA, 92614	Report ID: 7021519 Project ID: IQB1486	Date Received: 02/15/07 10:10 Date Reported: 03/02/07 19:09

QUALITY CONTROL SECTION

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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

TestAmerica, Inc. - Irvine 17461 Derian Ave, Suite 100 Irvine CA, 92614	Report ID: 7021519 Project ID: IQB1486	Date Received: 02/15/07 10:10 Date Reported: 03/02/07 19:09

Notes and Definitions

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

BOEING

CHAIN OF CUSTODY RECORD

COC #: MWHSV20070214_00

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	DOE	Collector:	Shelby Valenzuela	Boeing PM:	
Company:	MWH	Sampling Event:	Group 8 Data Gaps-Water	Contact #:			
Report to:	Lisa Tucker	Project Number:	1891264				
Address:	9444 Farnham Street	Project Manager:	Diana Buchanan				
	Suite 300	PM Phone #:	(626) 568-6897				
	San Diego	Field Contact:					
	CA	Field Contact #:					
	92123	Lab Name:	Test America, Inc.				
Email:	boeingedms@ch2m.com	Lab Contact:	Michele Chamberlin				
	Lisa.Tucker@mwhglobal.com	Lab Address:	17461 Derian Ave, Suite 100				
			Irvine, CA 92606				
		Lab Phone:	(949) 261-1022				

Requested Analyses

Instructions/TAT

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract_Hold

Sample Name	Matrix	Date	Time	No. of Containers	Dioxin by 1613B - Water	Energetics 8330 Water	Metals 6010B/6020 Water Group 8	Metals 7199 Water Chromium 6	Metals 7470A Water Mercury	PCB by SW8082 - Water	Perchlorate 314 Water	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Water	Comments
BLSW0001S01	Water	2/14/2007	8:00	1							10			
BLQW0018E01	Water	2/14/2007	9:00	12	10	10	10	1	10	10	10	10	10	

2°C

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
[signature]	2/14/2007	[signature]	2/14/07	[signature]	2/14/07	[signature]	2-14-07
Company: MWH	Time: 1000	Company: TAI	Time: 1000	Company: TAI	Time: 1945	Company:	Time: 1945

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

HE 2-14-07 2050

498

CHAIN OF CUSTODY RECORD

PROJECT NAME: Boeing-Rocketdyne/SSFL
PROJECT NUMBER: 8640-DOE.B/59DW
PROJECT MANAGER: Lynn Brumbaugh
SAMPLERS: DLB

TYPE & NUMBER OF CONTAINERS

ANALYSES REQUIRED

SAMP. IDENTIFIER	DATE SAMPLED 1999	TIME SAMPLED	SAMPLE TYPE: Composite or GRAB	SAMPLE TYPE: Soil or WATER	40 ml VOA (HCL)	liter plastic	quart plastic				TOTAL # OF CONTAINERS	8021 halogenated	Trace metals	Common Ions					BATCH #	REMARKS, PRESERVATIVES, SPECIAL HANDLING
(1) B/56 Pit	4/29	1100			2	1	1				4	X	X	X						HCL in VOAs
																				HNO3 in liter filtered plastic
																				no preservative in quart
																				Regular turnaround
																			*	please rpt. Freon 113

L9901965

SIGNATURE	COMPANY/SHIPPING METHOD	DATE	TIME	REMARKS/CONDITION OF SAMPLES
RELINQUISHED BY: D. Lynn Brumbaugh	GWRC/Hand delivered	4/29/99	1355	
RECEIVED BY: Sharon Malone	CAS	4/29/99	1355	
RELINQUISHED BY:				
RECEIVED BY:				
RELINQUISHED BY:				
RECEIVED BY:				

SHIP TO: CAS - Canoga

SEND RESULTS AND INVOICE TO:

GROUNDWATER RESOURCES CONSULTANTS, INC.
6200 EAST 14th STREET, SUITE A200
TUCSON, ARIZONA 85711-4029
PHONE: (520) 326-1898 FAX: (520) 747-3491

U C P

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne
Project Manager: D. Hambrick
Analysis/Method: Metals by Method 7471A
QC Level: V[1]
SDG: L9900819
Matrix: Water
No. of Samples: 1
Date Reviewed: June 17, 2004
Reviewer: A. Lang
Reference: *USEPA SW-846 Methods SM 2320B, 300.0, 335.2, 340.2, 160.1*
Samples Reviewed: B/056 PIT

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC for this sample was signed by both field and laboratory personnel. There was no other sample receipt information provided. The sample in this SDG was accounted for on the COC. The analyses were performed within the required holding times.	No qualifications were required.
3. Method Blanks	The target analytes were not detected in the method blanks associated with the samples in this SDG.	No qualifications were required.
5. LCS/BS	Data were provided for the LCSs for fluoride, TDS, pH, alkalinity, and cyanide, only. The LCS recoveries for these elements were within the laboratory defined QC limits.	No qualifications were required.
6. Duplicates B/056 cyanide only	The RPDs were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs B/056 cyanide only	The recoveries were within the laboratory-established QC limits.	No qualifications were required.

	Findings	Qualifications
10. Other	None	No qualifications were required.
11. Field QC Samples	None	No qualifications were required.
Comments	None	None.

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Groundwater Resources Consultants, Inc.
Project: Boeing-Rocketdyne/SSFL/8640
Sample Matrix: Water

Service Request: L9900819
Date Collected: 2/22/99
Date Received: 2/23/99

Inorganic Parameters

Sample Name: B/056 PIT
Lab Code: L9900819-001
Test Notes:

Basis: NA

Analyte	Units	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Rev Quals	Qual Codes
Bicarbonate as CaCO3	mg/L (ppm)	SM 2320B	10	1	NA	3/1/99	150			
Chloride	mg/L (ppm)	300.0	0.5	1	NA	2/23/99	17			
Cyanide, Total	mg/L (ppm)	335.2	0.05	1	NA	2/25-26/99	ND		U	
Fluoride	mg/L (ppm)	340.2	0.1	1	NA	2/28/99	0.6			
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	1	NA	2/23/99	ND		U	
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	1	NA	2/24/25/99	200			
Sulfate	mg/L (ppm)	300.0	1.0	1	NA	2/23/99	13			

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LEVEL V

Approved By: [signature] Date: 3/5/99
1S44/021397p

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DATA ASSESSMENT FORM

Project Title: Rocketdyne
Project Manager: D. Hambrick
Analysis/Method: Metals by Method 7471A
QC Level: V[1]
SDG: L9901965
Matrix: Water
No. of Samples: 1
Date Reviewed: June 17, 2004
Reviewer: A. Lang
Reference: *USEPA SW-846 Methods 7470A, 7060A, 7610, 7740, 6010B*
Samples Reviewed: B/56 PIT

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC for this sample was signed by both field and laboratory personnel. There was no other sample receipt information provided. The sample in this SDG was accounted for on the COC. The analyses were performed within the 28-day holding time for mercury and the 6 month holding time for the remaining metals.	No qualifications were required.
3. Method Blanks	Metals were not detected in the method blanks associated with the samples in this SDG.	No qualifications were required.
5. LCS/BS	Data were provided for the LCSs for mercury, selenium, arsenic, and potassium, only. The LCS recoveries for these elements were within the laboratory defined QC limits.	No qualifications were required.
6. Duplicates MS/MSD performed on B/56 for all but As, Se, and Hg.	The RPDs were within the laboratory-established QC limits.	No qualifications were required.

	Findings	Qualifications
7. MS/MSDs Performed on B/56 PIT for all but As, Se, and Hg.	The recoveries were within the laboratory-established QC limits.	No qualifications were required.
9. ICP Serial Dilution	None	No qualifications were required.
10. Other	None	No qualifications were required.
11. Field QC Samples	None	No qualifications were required.
Comments	None	None.

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Groundwater Resources Consultants, Inc.
Project: Boeing-Rocketdyne/SSFL/8640-DOE.B/59DW
Sample Matrix: Water

Service Request: L9901965
Date Collected: 4/29/99
Date Received: 4/29/99

Metals

Sample Name: B/56 PIT
Lab Code: L9901965-001
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes Lab Qual	Qual Code
Arsenic, Total	EPA 3020A	7060A	0.005	1	5/3/99	5/4/99	ND	U	
Barium, Total	EPA 3010A	6010B	0.02	1	5/4/99	5/4/99	0.03		
Cadmium, Total	EPA 3010A	6010B	0.005	1	5/4/99	5/4/99	ND	U	
Calcium, Total	EPA 3010A	6010B	0.05	1	5/4/99	5/4/99	28		
Chromium, Total	EPA 3010A	6010B	0.01	1	5/4/99	5/4/99	ND	U	
Iron, Total	EPA 3010A	6010B	0.05	1	5/4/99	5/4/99	0.33		
Lead, Total	EPA 3010A	6010B	0.05	1	5/4/99	5/4/99	ND	U	
Magnesium, Total	EPA 3010A	6010B	0.1	1	5/4/99	5/4/99	6.9		
Manganese, Total	EPA 3010A	6010B	0.01	1	5/4/99	5/4/99	0.58		
Mercury, Total	METHOD	7470A	0.0005	1	5/3/99	5/3/99	ND	U	
Potassium, Total	EPA 3010A	7610	0.2	1	5/4/99	5/6/99	2.2		
Selenium, Total	EPA 3020A	7740	0.005	1	5/3/99	5/4/99	ND	U	
Silver, Total	EPA 3010A	6010B	0.01	1	5/4/99	5/4/99	ND	U	
Sodium, Total	EPA 3010A	6010B	0.5	1	5/4/99	5/4/99	39		

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LEVEL V

Approved By: [signature] Date: 5/7/99

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DATA ASSESSMENT FORM

Project Title: Rocketdyne
Project Manager: D. Hambrick
Analysis/Method: Metals by Method 7471A
QC Level: V[1]
SDG: L9900819
Matrix: Water
No. of Samples: 1
Date Reviewed: June 17, 2004
Reviewer: A. Lang
Reference: *USEPA SW-846 Methods 7470A, 7060A, 7610, 7740, 6010B*
Samples Reviewed: B/056 PIT

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC for this sample was signed by both field and laboratory personnel. There was no other sample receipt information provided. The sample in this SDG was accounted for on the COC. The analyses were performed within the 28-day holding time for mercury and the 6 month holding time for the remaining metals.	No qualifications were required.
3. Method Blanks	Metals were not detected in the method blanks associated with the samples in this SDG.	No qualifications were required.
5. LCS/BS	Data were provided for the LCSs for mercury, selenium, arsenic, calcium, magnesium, and potassium, only. The LCS recoveries for these elements were within the laboratory defined QC limits.	No qualifications were required.
6. Duplicates None	None	No qualifications were required.
7. MS/MSDs None	None	No qualifications were required.

	Findings	Qualifications
9. ICP Serial Dilution	None	No qualifications were required.
10. Other	None	No qualifications were required.
11. Field QC Samples	None	No qualifications were required.
Comments	None	None.

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Groundwater Resources Consultants, Inc.
Project: Boeing-Rocketdyne/SSFL/8640
Sample Matrix: Water

Service Request: L9900819
Date Collected: 2/22/99
Date Received: 2/23/99

Metals

Sample Name: B/056 PIT
Lab Code: L9900819-001
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Digested	Date Analyzed	Result	Result Notes	Qual Code
Arsenic, Total	EPA 3020A	7060A	0.005	1	2/26/99	2/28/99	ND	U	
Barium, Total	EPA 3010A	6010B	0.02	1	3/1/99	3/1/99	ND	↓	
Cadmium, Total	EPA 3010A	6010B	0.005	1	3/1/99	3/1/99	ND	↓	
Calcium, Total	EPA 3010A	6010B	0.05	1	3/1/99	3/1/99	25		
Chromium, Total	EPA 3010A	6010B	0.01	1	3/1/99	3/1/99	ND	U	
Iron, Total	EPA 3010A	6010B	0.05	1	3/1/99	3/1/99	0.13		
Lead, Total	EPA 3010A	6010B	0.05	1	3/1/99	3/1/99	ND	U	
Magnesium, Total	EPA 3010A	6010B	0.1	1	3/1/99	3/1/99	6.9		
Manganese, Total	EPA 3010A	6010B	0.01	1	3/1/99	3/1/99	ND	U	
Mercury, Total	METHOD	7470A	0.0005	1	2/26/99	2/26/99	ND	U	
Potassium, Total	EPA 3010A	7610	0.2	1	3/1/99	3/3/99	2.0		
Selenium, Total	EPA 3020A	7740	0.005	1	2/26/99	3/1/99	ND	U	
Silver, Total	EPA 3010A	6010B	0.01	1	3/1/99	3/1/99	ND	U	
Sodium, Total	EPA 3010A	6010B	0.5	1	3/1/99	3/1/99	39		

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LEVEL V

Approved By: _____ Date: 3/5/99

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DATA ASSESSMENT FORM

Project Title: Rocketdyne Former Sodium Disposal Facility Site Sampling
Project Manager: D. Hambrick
Analysis/Method: SW846 Method 8021B
QC Level: V[1]
SDG: L9901965
Matrix: Water
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Date Reviewed: June 16, 2004
Reviewer: K. Shadowlight
Reference: National Functional Guidelines For Organic Data Review (2/94)
Samples Reviewed: B/56 PIT

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC for this sample was signed by both field and laboratory personnel. There was no other sample receipt information provided. The sample in this SDG was accounted for on the COC. The water sample was analyzed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	One water method blank was analyzed with this SDG. No target analyte detects were reported in the method blank.	No qualifications were required.
5. LCS/BS	An LCS was not analyzed with this SDG; however, the laboratory did analyze an MS/MSD pair to demonstrate accuracy and precision (see section 7).	No qualifications were required.
6. Surrogates	The site sample and QC were fortified with bromofluorobenzene-d4, and all recoveries were within the QC limits of 60-140% on both the ELCD and PID detectors.	No qualifications were required.
7. MS/MSDs B/56 PIT	The recoveries and RPDs were within the laboratory-established QC limits.	No qualifications were required.

	Findings	Qualifications
8. Field QC Samples ER: None FB: None Duplicates: None	There were no field QC samples associated with this SDG.	No qualifications were required.
9. Other	Based on the findings documented in a letter to Gerard Abrams of DTSC regarding Columbia Analytical Laboratory Method 8021 Data Usability for the RCRA Facility Investigation, Santa Susana Field Laboratory, Ventura County, the following DTSC-approved actions were taken.	The reporting limits for all target compounds were raised to 10µg/L, and results were qualified as estimated, "UJ."
Comments	None	No qualifications were required.

[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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Groundwater Resources Consultants, Inc.
Project: Boeing-Rocketdyne/SSFL/8640-DOE.B/59DW
Sample Matrix: Water

Service Request: L9901965
Date Collected: 4/29/99
Date Received: 4/29/99

Halogenated Volatile Organic Compounds

Sample Name: B/56 PIT
Lab Code: L9901965-001
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Rev Qual	Result Notes	Qual code
Dichlorodifluoromethane (CFC 12)	EPA 5030	8021B	2 10	1	NA	5/4/99	ND	U3	*9	$
Chloromethane	EPA 5030	8021B	2	1	NA	5/4/99	ND			
Vinyl Chloride	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
Bromomethane	EPA 5030	8021B	2	1	NA	5/4/99	ND			
Chloroethane	EPA 5030	8021B	2	1	NA	5/4/99	ND			
Trichlorofluoromethane (CFC 11)	EPA 5030	8021B	2	1	NA	5/4/99	ND			
1,1-Dichloroethene	EPA 5030	8021B	2	1	NA	5/4/99	ND			
Methylene Chloride	EPA 5030	8021B	2	1	NA	5/4/99	ND			
trans-1,2-Dichloroethene	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
cis-1,2-Dichloroethene	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
1,1-Dichloroethane	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
Chloroform	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
1,1,1-Trichloroethane (TCA)	EPA 5030	8021B	1	1	NA	5/4/99	ND			
Carbon Tetrachloride	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
1,2-Dichloroethane	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
Trichloroethene (TCE)	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
1,2-Dichloropropane	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
Bromodichloromethane	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
2-Chloroethyl Vinyl Ether	EPA 5030	8021B	5	1	NA	5/4/99	ND			
trans-1,3-Dichloropropene	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
cis-1,3-Dichloropropene	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
1,1,2-Trichloroethane	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
Tetrachloroethene (PCE)	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
Dibromochloromethane	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
Chlorobenzene	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
Bromoform	EPA 5030	8021B	2	1	NA	5/4/99	ND			
1,1,2,2-Tetrachloroethane	EPA 5030	8021B	0.5	1	NA	5/4/99	ND			
1,3-Dichlorobenzene	EPA 5030	8021B	1	1	NA	5/4/99	ND			
1,4-Dichlorobenzene	EPA 5030	8021B	1	1	NA	5/4/99	ND			
1,2-Dichlorobenzene	EPA 5030	8021B	1	1	NA	5/4/99	ND			
1,1,2-Trichlorotrifluoroethane (CFC 113)	EPA 5030	8021B	5	1	NA	5/4/99	ND			

IC 06/16/04

LEVEL V

Approved By: SS Date: 5/6/99

1S44/021397p

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DATA ASSESSMENT FORM

Project Title: Rocketdyne Former Sodium Disposal Facility Site Sampling
Project Manager: D. Hambrick
Analysis/Method: SW846 Method 8021B
QC Level: V[1]
SDG: L9901665
Matrix: Water
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Date Reviewed: June 16, 2004
Reviewer: K. Shadowlight
Reference: National Functional Guidelines For Organic Data Review (2/94)
Samples Reviewed: PIT-56

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC for this sample was signed by both field and laboratory personnel. There was no other sample receipt information provided. The sample in this SDG was accounted for on the COC. The water sample was analyzed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	One water method blank was analyzed with this SDG. No target analyte detects were reported in the method blank.	No qualifications were required.
5. LCS/BS	An LCS was not analyzed with this SDG; however, the laboratory did analyze an MS/MSD pair to demonstrate accuracy and precision (see section 7).	No qualifications were required.
6. Surrogates	The site sample and QC were fortified with bromofluorobenzene-d4, and all recoveries were within the QC limits of 60-140% on both the ELCD and PID detectors.	No qualifications were required.

	Findings	Qualifications
7. MS/MSDs	The recoveries and RPDs were within the laboratory-established QC limits. Although method accuracy and precision were demonstrated in the MS/MSD pair, the sample was not associated this SDG.	No qualifications were required.
8. Field QC Samples ER: None FB: None Duplicates: None	There were no field QC samples associated with this SDG.	No qualifications were required.
9. Other	Based on the findings documented in a letter to Gerard Abrams of DTSC regarding Columbia Analytical Laboratory Method 8021 Data Usability for the RCRA Facility Investigation, Santa Susana Field Laboratory, Ventura County, the following DTSC-approved actions were taken.	The reporting limits for all target compounds were raised to 10µg/L, and results were qualified as estimated, "UJ."
Comments	None	No qualifications were required.

[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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Groundwater Resources Consultants, Inc.
Project: 8640
Sample Matrix: Water

Service Request: L9901665
Date Collected: 4/8/99
Date Received: 4/8/99

Halogenated Volatile Organic Compounds

Sample Name: PIT-56
Lab Code: L9901665-001
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Rev Qual	Result Notes	Qual Code
Dichlorodifluoromethane (CFC 12)	EPA 5030	8021B	~~2~~ 10	1	NA	4/12/99	ND	UJ	*9	$
Chloromethane	EPA 5030	8021B	~~2~~	1	NA	4/12/99	ND			
Vinyl Chloride	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
Bromomethane	EPA 5030	8021B	~~2~~	1	NA	4/12/99	ND			
Chloroethane	EPA 5030	8021B	~~2~~	1	NA	4/12/99	ND			
Trichlorofluoromethane (CFC 11)	EPA 5030	8021B	~~2~~	1	NA	4/12/99	ND			
1,1-Dichloroethene	EPA 5030	8021B	~~2~~	1	NA	4/12/99	ND			
Methylene Chloride	EPA 5030	8021B	~~2~~	1	NA	4/12/99	ND			
trans-1,2-Dichloroethene	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
cis-1,2-Dichloroethene	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
1,1-Dichloroethane	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
Chloroform	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
1,1,1-Trichloroethane (TCA)	EPA 5030	8021B	1	1	NA	4/12/99	ND			
Carbon Tetrachloride	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
1,2-Dichloroethane	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
Trichloroethene (TCE)	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
1,2-Dichloropropane	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
Bromodichloromethane	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
2-Chloroethyl Vinyl Ether	EPA 5030	8021B	5	1	NA	4/12/99	ND			
trans-1,3-Dichloropropene	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
cis-1,3-Dichloropropene	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
1,1,2-Trichloroethane	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
Tetrachloroethene (PCE)	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
Dibromochloromethane	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
Chlorobenzene	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
Bromoform	EPA 5030	8021B	2	1	NA	4/12/99	ND			
1,1,2,2-Tetrachloroethane	EPA 5030	8021B	0.5	1	NA	4/12/99	ND			
1,3-Dichlorobenzene	EPA 5030	8021B	1	1	NA	4/12/99	ND			
1,4-Dichlorobenzene	EPA 5030	8021B	1	1	NA	4/12/99	ND			
1,2-Dichlorobenzene	EPA 5030	8021B	1	1	NA	4/12/99	ND			

AM[illegible]

LEVEL V

10
06/18/99

Approved By: [signature] Date: 4/13/99
1S44/021397p

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DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Volatiles by 8260B
QC Level: V[1]
SDG: M4-405
Matrix: Soil Vapor
No. of Samples: 8
Date Reviewed: October 02, 2001
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Organic Data Review, (Feb. 1994), and Interim Guidance For Active Soil Gas Investigation, State of California Regional Water Quality Control Board (LA Region).*
Samples Reviewed: MV122, MV123, MV124, MV125, MV126, MV127, MV128, MV129

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC accounted for all samples in this SDG. According to the COC and the instrument run log, the eight-hour holding time was met for all samples.	No qualifications were required.
3. Method Blanks	Six method blanks were analyzed this SDG. Methylene chloride and benzene were reported in the method blanks analyzed on 07/23/02 at 10:15, 10:44, 15:44, and 16:13. As the ion ratios were incorrect, the laboratory analyst removed the detect for methylene chloride in the method blank analyzed at 10:44. 1,1,2,2-Tetrachloroethene was reported in the method blank analyzed on 07/23/02 at 10:15 and chloroform was reported in the method blank analyzed on 07/23/02 at 15:44. No other target compounds were detected in the method blanks above the applicable reporting limit.	As methylene chloride, benzene, 1,1,2,2-tetrachloroethene, and chloroform were not reported in any of the associated site samples, no qualifications were required.
6. Surrogates	All samples analyzed in this SDG had surrogate recoveries within the control limits of 75-125%.	No qualifications were required.

	Findings	Qualifications
7. Calibration	The BFB tune was acceptable and all samples were analyzed within 12 hours of the BFB tune. The %RSDs for the initial calibrations were all less than the control limit of 20%, or 30% where applicable. The %Ds for the calibration verification standards were all less than the control limits of 15%, or 25% where applicable.	No qualifications were required.
10. Other	Methylene chloride was reported in samples MV123, MV124, MV125, MV127, MV128, and MV129, benzene was reported in samples MV123, MV124, MV125, MV128, and MV129, and chloroform was reported in samples MV123, MV124, and MV128. All of the aforementioned detects were removed by the analyst with an undated and unintitialed notation in the raw data of "ID." Previous telephone conversations with the analyst indicated that the notation "ID," refers to a lack of a spectral match. Spectra indicating the poor spectral match were included in the raw data for sample MV123 only. There were no field QC samples or field duplicates associated with the samples in this SDG.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

Centrum Analytical Laboratories, Inc.

ANALYTICAL TEST RESULTS

Reporting Unit: µg/L

DATE ANALYZED			07/23/02	07/23/02		07/23/02		07/23/02	
ANALYTICAL BATCH			072302M4V785	072302M4V785		072302M4V785		072302M4V785	
DILUTION FACTOR			1.0	1.0		1.0		1.0	
CLIENT SAMPLE I.D.			NA	B1SV47S04		B1SV47S03		B1SV47S01	
EPA I.D. & DEPTH			NA	MV122 20'		MV123 15'		MV124 5'	
LAB SAMPLE I.D.			BLANK	M4-405-01		M4-405-02		M4-405-03	
COMPOUND		RL			Rev Qual	Qual Code	Rev Qual	Qual Code	Rev Qual	Qual Code
Dichlorodifluoromethane		1.0	ND	ND	U		ND	U	ND	U
Vinyl Chloride		1.0	ND	ND			ND		ND	
Chloroethane		1.0	ND	ND			ND		ND	
Trichlorofluoromethane		1.0	ND	ND			ND		ND	
1,1-Dichloroethene		1.0	ND	ND			ND		ND	
Methylene Chloride		20	ND	ND			ND		ND	
cis-1,2-Dichloroethene		1.0	ND	ND			ND		ND	
1,1-Dichloroethane		1.0	ND	ND			ND		ND	
trans-1,2-Dichloroethene		1.0	ND	ND			ND		ND	
Chloroform		1.0	ND	ND			ND		ND	
1,1,1-Trichloroethane		1.0	ND	ND			ND		ND	
Carbon Tetrachloride		1.0	ND	ND			ND		ND	
1,2-Dichloroethane		1.0	ND	ND			ND		ND	
Benzene		1.0	ND	ND			ND		ND	
Trichloroethene		1.0	ND	ND			ND		ND	
Toluene		1.0	ND	ND			ND		ND	
1,1,2-Trichloroethane		1.0	ND	ND			ND		ND	
Tetrachloroethene		1.0	ND	ND			ND		ND	
Ethylbenzene		1.0	ND	ND			ND		ND	
1,1,1,2-Tetrachloroethane		1.0	ND	ND			ND		ND	
m,p-Xylenes		2.0	ND	ND			ND		ND	
o-Xylene		1.0	ND	ND			ND		ND	
1,1,2,2-Tetrachloroethane		1.0	ND	ND			ND		ND	
1,1,2-Trichloro-trifluoroethane		5.0	ND	ND			ND		ND	
SURROGATE	SPK CONC	ACP%	%REC	%REC			%REC		%REC	
d-Methylene Chloride	25	75-125	96	93			90		87	
d-Chloroform	25	75-125	99	90			89		86	
d-Benzene	25	75-125	98	88			90		85	
Dibromofluoromethane	50	75-125	98	100			98		98	
Toluene-d8	50	75-125	100	101			101		101	
Bromofluorobenzene	50	75-125	101	101			101		100	

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED LEVEL A

Centrum Analytical Laboratories, Inc.

ANALYTICAL TEST RESULTS

Reporting Unit: µg/L

DATE ANALYZED		07/23/02		07/23/02		07/23/02		07/23/02	
ANALYTICAL BATCH		072302M4V785		072302M4V785		072302M4V785		072302M4V785	
DILUTION FACTOR		1.0		1.0		1.0		1.0	
CLIENT SAMPLE I.D.		B1SV47S02		HSSV11S01		HSSV10S02		HSSV10S01	
EPA I.D. & DEPTH		MV125 10'		MV126 6'		MV127 9'		MV128 4.5'	
LAB SAMPLE I.D.		M4-405-04		M4-405-05		M4-405-06		M4-405-07	
COMPOUND	RL	Rev Qual	Qual Code	Rev Qual	Qual Code	Rev Qual	Qual Code	Rev Qual	Qual Code
Dichlorodifluoromethane	1.0	ND	U	ND	U	ND	U	ND	U
Vinyl Chloride	1.0	ND		ND		ND		ND	
Chloroethane	1.0	ND		ND		ND		ND	
Trichlorofluoromethane	1.0	ND		ND		ND		ND	
1,1-Dichloroethene	1.0	ND		ND		ND		ND	
Methylene Chloride	20	ND		ND		ND		ND	
cis-1,2-Dichloroethene	1.0	ND		ND		ND		ND	
1,1-Dichloroethane	1.0	ND		ND		ND		ND	
trans-1,2-Dichloroethene	1.0	ND		ND		ND		ND	
Chloroform	1.0	ND		ND		ND		ND	
1,1,1-Trichloroethane	1.0	ND		ND		ND		ND	
Carbon Tetrachloride	1.0	ND		ND		ND		ND	
1,2-Dichloroethane	1.0	ND		ND		ND		ND	
Benzene	1.0	ND		ND		ND		ND	
Trichloroethene	1.0	ND		ND		ND		ND	
Toluene	1.0	ND		ND		ND		ND	
1,1,2-Trichloroethane	1.0	ND		ND		ND		ND	
Tetrachloroethene	1.0	ND		ND		ND		ND	
Ethylbenzene	1.0	ND		ND		ND		ND	
1,1,1,2-Tetrachloroethane	1.0	ND		ND		ND		ND	
m,p-Xylenes	2.0	ND		ND		ND		ND	
o-Xylene	1.0	ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane	1.0	ND		ND		ND		ND	
1,1,2-Trichloro-trifluoroethane	5.0	ND		ND		ND		ND	
SURROGATE	SPK CONC	ACP%	%REC		%REC		%REC		%REC
d-Methylene Chloride	25	75-125	85		94		88		85
d-Chloroform	25	75-125	84		95		90		86
d-Benzene	25	75-125	82		95		90		85
Dibromofluoromethane	50	75-125	100		97		99		96
Toluene-d8	50	75-125	101		100		101		100
Bromofluorobenzene	50	75-125	101		100		100		101

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED

LEVEL V

Centrum Analytical Laboratories, Inc.

ANALYTICAL TEST RESULTS

Reporting Unit: µg/L

DATE ANALYZED		07/23/02			
ANALYTICAL BATCH		072302M4V785			
DILUTION FACTOR		1.0			
CLIENT SAMPLE I.D.		HSSV12S01			
EPA I.D. & DEPTH		MV129 4.0'			
LAB SAMPLE I.D.		M4-405-08			
COMPOUND	RL	Raw Qual	Qual Code		
Dichlorodifluoromethane	1.0	ND U			
Vinyl Chloride	1.0	ND			
Chloroethane	1.0	ND			
Trichlorofluoromethane	1.0	ND			
1,1-Dichloroethene	1.0	ND			
Methylene Chloride	20	ND			
cis-1,2-Dichloroethene	1.0	ND			
1,1-Dichloroethane	1.0	ND			
trans-1,2-Dichloroethene	1.0	ND			
Chloroform	1.0	ND			
1,1,1-Trichloroethane	1.0	ND			
Carbon Tetrachloride	1.0	ND			
1,2-Dichloroethane	1.0	ND			
Benzene	1.0	ND			
Trichloroethene	1.0	ND			
Toluene	1.0	ND			
1,1,2-Trichloroethane	1.0	ND			
Tetrachloroethene	1.0	ND			
Ethylbenzene	1.0	ND			
1,1,1,2-Tetrachloroethane	1.0	ND			
m,p-Xylenes	2.0	ND			
o-Xylene	1.0	ND			
1,1,2,2-Tetrachloroethane	1.0	ND			
1,1,2-Trichloro-trifluoroethane	5.0	ND			

SURROGATE	SPK CONC	ACP%	%REC			
d-Methylene Chloride	25	75-125	81			
d-Chloroform	25	75-125	81			
d-Benzene	25	75-125	78			
Dibromofluoromethane	50	75-125	99			
Toluene-d8	50	75-125	101			
Bromofluorobenzene	50	75-125	102			

SPK CONC = Spiking Concentration; ACP % = Acceptable Range of Percent; %REC = % Recovery

RL = Reporting Limit; MB = Method Blank; ND = Not Detected (Below RL); NA = Not Applicable

AMEC VALIDATED
LEVEL V

DATA VALIDATION REPORT

Boeing SSFL RFI Group 8 Data Gap

SAMPLE DELIVERY GROUP: IQB1486

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI Group 8 Data Gap
Contract Task Order:	1261.500D.08.001
Sample Delivery Group:	IQB1486
Project Manager:	Dixie Hambrick
Matrix:	water
QC Level:	V
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Laboratory:	Test America

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
BLQW0018E01	IQB1486-02	D7B160280001	Water	2/14/2007 9:00:00 AM	1613B, 314.0, 6010B, 6020, 7199, 7470A, 8015B, 8082, 8270C SIM, 8330
BLQW0018E01RE1	IQB1486-02	D7D160280001	Water	2/14/2007 9:00:00 AM	8330
BLSW0001S01	IQB1486-01	N/A	Water	2/14/2007 8:00:00 AM	314.0

II. Sample Management

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

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

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

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

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

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

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

- Blanks: Target compounds 2,3,4,7,8-PeCDF, 2,3,4,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDF total PeCDFs, and total HxCDFs were reported in the method blank at concentrations above the EDL. 2,3,4,7,8-PeCDF was reported in the sample at a concentration less than five times the concentration reported in the method blank; therefore, the detect for 2,3,4,7,8-PeCDF was qualified as an estimated nondetect, "UJ," at the level of interference. As a portion of total PeCDFs included 2,3,4,7,8-PeCDF, the result was qualified as estimated, "J," due to method blank contamination.

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

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

    - Field Blanks and Equipment Rinsates: The sample in this SDG was identified as an equipment rinsate and as such was not evaluated based on other field QC results. Target compounds 2,3,7,8-TCDF, 1,2,3,7,8-PeCDF, total TCDFs, and total PeCDFs were reported in the equipment rinsate.

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

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

- Compound Identification: Review is not applicable at a level V validation. Confirmation analysis was not performed by the laboratory for the reported 2,3,7,8-TCDF detect; therefore, the result was qualified as estimated, "J," in the sample of this SDG. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.

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

B. EPA METHOD 8330—Energetics

Reviewed By: E. Wessling
Date Reviewed: March 27, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Explosives, Nitroaromatics, and Nitramines (DVP-16, Rev. 0), EPA Method 8330*, and the *National Functional Guidelines for Organic Data Review* (2/94).

- Extraction and analytical holding times were met. The water sample was extracted within 7 days of collection and analyzed within 40 days of extraction. The sample was subsequently reextracted outside of the holding time and the reextraction was accepted as the technically acceptable result; however, the sample was not qualified for the exceeded holding time as it was identified as a field QC sample.

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

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

- Blank Spikes and Laboratory Control Samples: Recoveries were below the laboratory-established QC limits for several constituents for the original extraction batch. The reextraction batch QC results were within the laboratory-established QC limits; therefore, reanalysis BLQW0018E01 RE1 was deemed the technically acceptable analysis. The sample results from the first extraction batch were rejected, "R," in favor of the reanalysis, BLQW0018E01 RE1.

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

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on a sample from this SDG. Evaluation of method accuracy was based on the blank spike results.

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

- Field Blanks and Equipment Rinsates: This SDG contains an equipment rinsate sample only.

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

- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for energetic compounds by Method 8330.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. The reporting limits (RLs) and/or method detection limits (MDLs) were adjusted by the laboratory for the actual sample volumes extracted. Reported nondetects are valid to the reporting limit.

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

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

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

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

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

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

- Blanks: Method blanks and CCBs had no detects.

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

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample of this SDG; however, as the sample was identified as a field QC sample, the MS/MSD results were not assessed.

- Serial Dilution: No serial dilution analyses were performed.

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

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

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

    - Field Blanks and Equipment Rinsates: The sample in this SDG was identified as an equipment rinsate. There were no detects in the sample.

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

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

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

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.

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

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

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

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

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

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision was based on the LCS/LCSD results.

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

    - Field Blanks and Equipment Rinsates: The sample in this SDG, BLQW0018E01, was identified as an equipment rinsate, and as such was not evaluated based on any other field QC results. The equipment rinsate had a detect for naphthalene reported between the MDL and the reporting limit at 0.098 µg/L.

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

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

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

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

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

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

E. EPA METHOD 314.0—Perchlorate

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

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

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

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

- Blanks: Method blanks and CCBs had no detects.

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed.

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

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

    - Field Blanks and Equipment Rinsates: Perchlorate was not detected in field blank BLQW0018F01 (IQB1202) or equipment rinsate BLQW0018E01.

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

F. EPA METHOD 8082—PCBs

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

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.

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

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

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits for the blank spike/blank spike duplicate pair.

- Surrogate Recovery: The recovery was within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: Evaluation of method accuracy and precision was based on blank spike/blank spike duplicate results.

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

- Field Blanks and Equipment Rinsates: The sample in this SDG was identified as an equipment rinsate and as such was not evaluated based on other field QC results. There were no target compounds detected in the equipment rinsate.

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

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

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

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

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

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.

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

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

- Blank Spikes and Laboratory Control Samples: Recoveries and RPD were within laboratory-established QC limits for the blank spike/blank spike duplicate pair.

- Surrogate Recovery: The recovery was within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: Evaluation of method accuracy and precision was based on blank spike/blank spike duplicate results.

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

    - Field Blanks and Equipment Rinsates: The sample in this SDG was identified as an equipment rinsate and as such was not evaluated based on other field QC results. There were no target compounds detected in the equipment rinsate.

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

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

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

H. EPA METHOD 7199—General Minerals

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

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 7199*, and the *National Functional Guidelines for Inorganic Data Review* (2/94).

- Holding Times: The analytical holding time, 24 hours for hexavalent chromium, was met.

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

- Blanks: Method blanks and CCBs had no detects.

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed.

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

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

    - Field Blanks and Equipment Rinsates: The sample in this SDG was identified as an equipment rinsate. Hexavalent chromium was not detected in the sample.

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

Method 1613
IQB1486-02 BLQW0018E01
Test America

Analytical Data Summary Sheet

	Analyte	Amount (ng/L)	EDL (ng/L)	Adj. RL (ng/L)	RT (min.)	Ratio	Qualifier
U	2,3,7,8-TCDD	ND	0.00168	0.00948			
	1,2,3,7,8-PeCDD	ND	0.00166	0.0474			
	1,2,3,4,7,8-HxCDD	ND	0.00189	0.0474			
	1,2,3,6,7,8-HxCDD	ND	0.00203	0.0474			
	1,2,3,7,8,9-HxCDD	ND	0.00195	0.0474			
	1,2,3,4,6,7,8-HpCDD	ND	0.00348	0.0474			
	OCDD	ND	0.00987	0.0948			
J/~~III~~	2,3,7,8-TCDF	0.00222	0.00174	0.00948	30:34	0.84	A
J	1,2,3,7,8-PeCDF	0.00184	0.00101	0.0474	33:18	1.52	A
UJ/B	2,3,4,7,8-PeCDF	0.00140	0.00104	0.0474	33:56	1.69	A
U	1,2,3,4,7,8-HxCDF	ND	0.00147	0.0474			
	1,2,3,6,7,8-HxCDF	ND	0.00149	0.0474			
	2,3,4,6,7,8-HxCDF	ND	0.00144	0.0474			
	1,2,3,7,8,9-HxCDF	ND	0.00251	0.0474			
	1,2,3,4,6,7,8-HpCDF	ND	0.00226	0.0474			
	1,2,3,4,7,8,9-HpCDF	ND	0.00403	0.0474			
	OCDF	ND	0.00838	0.0948			
U	Total TCDDs	ND	0.00168	0.00948			
	Total PeCDDs	ND	0.00166	0.0474			
	Total HxCDDs	ND	0.00195	0.0474			
	Total HpCDDs	ND	0.00348	0.0474			
J	Total TCDFs	0.00222	0.00174	0.00948			A
J/B	Total PeCDFs	0.00324	0.00103	0.0474			A
U	Total HxCDFs	ND	0.00167	0.0474			
U	Total HpCDFs	ND	0.00299	0.0474			
	ITEF TEQ (ND=0)	0.00101					
	ITEF TEQ (ND=½)	0.00296					

Client Information

Project Name:	IQB1486	
Sample ID:	IQB1486-02	

Laboratory Information

Project ID:	G579-223	
Sample ID:	G579-223-1B	
Collection Date/Time:	14-Feb-07	09:00
Receipt Date:	16-Feb-07	11:55
Extraction Date:	19-Feb-07	
Analysis Date:	21-Feb-07	18:34

Sample Information

Matrix:	Water	
Weight / Volume:	1055	mL
Solids / Lipids:	NA	%
Original pH :	5	
Batch ID:	WG14121	
Filename:	a21feb07a-5	
Retchk:	a21feb07a-1	
Begin ConCal:	a21feb07a-1	
Initial Cal:	m1613-071006e	

Level V

TestAmerica Analytical Testing Corp

Client Sample ID: IQB1486-02 BLQW001BE01

HPLC

Lot-Sample #...: D7B160280-001 **Work Order #...:** JPKW41AA **Matrix.....:** WATER
Date Sampled...: 02/14/07 09:00 **Date Received..:** 02/16/07
Prep Date.....: 02/19/07 **Analysis Date..:** 02/22/07
Prep Batch #...: 7050257 **Analysis Time..:** 19:19
Dilution Factor: 1

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,6-Dinitrotoluene R/D	ND	0.20	ug/L	0.064
HMX	ND	0.40	ug/L	0.088
Nitrobenzene	ND	0.40	ug/L	0.091
Nitroglycerin	ND	3.0	ug/L	0.92
2-Nitrotoluene	ND	0.40	ug/L	0.086
3-Nitrotoluene	ND	0.40	ug/L	0.083
4-Nitrotoluene	ND	1.0	ug/L	0.20
PETN	ND	2.0	ug/L	0.42
RDX	ND	0.20	ug/L	0.052
Tetryl	ND	0.20	ug/L	0.079
1,3,5-Trinitrobenzene	ND	1.0	ug/L	0.20
2,4,6-Trinitrotoluene	ND	0.40	ug/L	0.072
2,4-diamino-6-nitrotoluene	ND	1.0	ug/L	0.36
2,6-diamino-4-nitrotoluene	ND	1.0	ug/L	0.32
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	0.058
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	0.051
1,3-Dinitrobenzene	ND	0.40	ug/L	0.089
2,4-Dinitrotoluene	ND	0.40	ug/L	0.084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	115	(75 - 118)

Level V

TestAmerica Analytical Testing Corp

Client Sample ID: IQB1486-02 BLQW0019E01 1F1

HPLC

Lot-Sample #...: D7B160280-001 **Work Order #...:** JPKW42AA **Matrix.....:** WATER
Date Sampled...: 02/14/07 09:00 **Date Received..:** 02/16/07
Prep Date.....: 02/23/07 **Analysis Date..:** 02/27/07
Prep Batch #...: 7054564 **Analysis Time..:** 21:54
Dilution Factor: 1

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,6-Dinitrotoluene	ND	0.20	ug/L	0.064
HMX	ND	0.40	ug/L	0.088
Nitrobenzene	ND	0.40	ug/L	0.091
Nitroglycerin	ND	3.0	ug/L	0.92
2-Nitrotoluene	ND	0.40	ug/L	0.086
3-Nitrotoluene	ND	0.40	ug/L	0.083
4-Nitrotoluene	ND	1.0	ug/L	0.20
PETN	ND	2.0	ug/L	0.42
RDX	ND	0.20	ug/L	0.052
Tetryl	ND	0.20	ug/L	0.079
1,3,5-Trinitrobenzene	ND	1.0	ug/L	0.20
2,4,6-Trinitrotoluene	ND	0.40	ug/L	0.072
2,4-diamino-6-nitrotoluene	ND	1.0	ug/L	0.36
2,6-diamino-4-nitrotoluene	ND	1.0	ug/L	0.32
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	0.058
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	0.051
1,3-Dinitrobenzene	ND	0.40	ug/L	0.089
2,4-Dinitrotoluene	ND	0.40	ug/L	0.084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	98	(75 - 118)

Level IV

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1486-02 (BLQW0018E01 - Water) - cont.									
Reporting Units: mg/l									
Aluminum	EPA 6010B	7B19069	0.040	0.050	ND	1	02/19/07	02/19/07	
Boron	EPA 6010B	7B19069	0.020	0.050	ND	1	02/19/07	02/19/07	
Lithium	EPA 6010B	7B19069	0.030	0.050	ND	1	02/19/07	02/19/07	
Potassium	EPA 6010B	7B19069	0.15	0.50	ND	1	02/19/07	02/19/07	
Sodium	EPA 6010B	7B19069	0.19	0.50	ND	1	02/19/07	02/19/07	
Zirconium	EPA 6010B	7B19069	0.012	0.20	ND	1	02/19/07	02/23/07	
Sample ID: IQB1486-02 (BLQW0018E01 - Water)									
Reporting Units: ug/l									
Antimony	EPA 6020	7B21161	0.050	2.0	ND	1	02/21/07	02/22/07	
Arsenic	EPA 6020	7B21161	0.70	1.0	ND	1	02/21/07	02/22/07	
Barium	EPA 6020	7B21161	0.15	1.0	ND	1	02/21/07	02/22/07	
Beryllium	EPA 6020	7B21161	0.075	0.50	ND	1	02/21/07	02/22/07	
Cadmium	EPA 6020	7B21161	0.050	1.0	ND	1	02/21/07	02/22/07	
Chromium	EPA 6020	7B21161	0.70	2.0	ND	1	02/21/07	02/22/07	
Cobalt	EPA 6020	7B21161	0.15	1.0	ND	1	02/21/07	02/22/07	
Copper	EPA 6020	7B21161	0.40	2.0	ND	1	02/21/07	02/22/07	
Lead	EPA 6020	7B21161	0.10	1.0	ND	1	02/21/07	02/22/07	
Molybdenum	EPA 6020	7B21161	0.15	2.0	ND	1	02/21/07	02/22/07	
Nickel	EPA 6020	7B21161	0.90	2.0	ND	1	02/21/07	02/22/07	
Selenium	EPA 6020	7B21161	0.30	2.0	ND	1	02/21/07	02/22/07	
Silver	EPA 6020	7B21161	0.10	1.0	ND	1	02/21/07	02/22/07	
Thallium	EPA 6020	7B21161	0.15	1.0	ND	1	02/21/07	02/22/07	
Vanadium	EPA 6020	7B21161	0.70	2.0	ND	1	02/21/07	02/22/07	
Zinc	EPA 6020	7B21161	2.5	20	ND	1	02/21/07	02/22/07	

LEVEL V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

TestAmerica, Inc. - Irvine 17461 Derian Ave, Suite 100 Irvine CA, 92614	Report ID: 7021519 Project ID: IQB1486	Date Received: 02/15/07 10:10 Date Reported: 03/02/07 19:09

BLQW0018E01

IQB1486-02 7021519-01 (Water)

Metals (Aqueous) by EPA 6000/7000 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Total U	ND	0.073	ug/l	0.20	1	EPA 7470A	W7B0630	02/15/07	02/27/07 jl	

LEVEL V

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received:	02/15/07
Work Order No:	07-02-0978
Preparation:	EPA 3510B
Method:	EPA 8270C SIM
Units:	ug/L

Project: IQB1486

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
IQB1486-02	07-02-0978-1	02/14/07	Aqueous	GC/MS N	02/16/07	02/22/07	070216L06

BLQW0018E01

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

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
1-Methylnaphthalene u	ND	0.95	0.087	0.95		Chrysene u	ND	0.95	0.086	0.95	
2-Methylnaphthalene	ND	0.95	0.089	0.95		Di-n-Butyl Phthalate	ND	0.95	0.091	0.95	
Acenaphthene	ND	0.95	0.082	0.95		Dibenz (a,h) Anthracene	ND	0.95	0.091	0.95	
Acenaphthylene	ND	0.95	0.082	0.95		Diethyl Phthalate	ND	0.95	0.083	0.95	
Anthracene	ND	0.95	0.082	0.95		Fluoranthene	ND	0.95	0.086	0.95	
Benzo (a) Anthracene	ND	0.95	0.088	0.95		Fluorene	ND	0.95	0.086	0.95	
Benzo (a) Pyrene	ND	0.95	0.12	0.95		Indeno (1,2,3-c,d) Pyrene	ND	0.95	0.11	0.95	
Benzo (b) Fluoranthene	ND	0.95	0.12	0.95		N-Nitrosodimethylamine	ND	0.95	0.079	0.95	
Benzo (g,h,i) Perylene	ND	0.95	0.11	0.95		Naphthalene J	0.098	0.95	0.092	0.95	J
Benzo (k) Fluoranthene	ND	0.95	0.11	0.95		Phenanthrene u	ND	0.95	0.084	0.95	
Bis(2-Ethylhexyl) Phthalate	ND	0.95	0.13	0.95		Pyrene	ND	0.95	0.11	0.95	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2,4,6-Tribromophenol	91	24-152		2-Fluorobiphenyl	60	33-144	
2-Fluorophenol	55	31-142		Nitrobenzene-d5	112	28-139	
p-Terphenyl-d14	111	23-160		Phenol-d6	35	30-136	

Method Blank *	099-12-430-13	N/A	Aqueous	GC/MS N	02/16/07	02/21/07	070216L06

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

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
1-Methylnaphthalene	ND	1.0	0.092	1		Chrysene	ND	1.0	0.090	1	
2-Methylnaphthalene	ND	1.0	0.094	1		Di-n-Butyl Phthalate	ND	1.0	0.096	1	
Acenaphthene	ND	1.0	0.086	1		Dibenz (a,h) Anthracene	ND	1.0	0.096	1	
Acenaphthylene	ND	1.0	0.086	1		Diethyl Phthalate	ND	1.0	0.088	1	
Anthracene	ND	1.0	0.086	1		Fluoranthene	ND	1.0	0.091	1	
Benzo (a) Anthracene	ND	1.0	0.093	1		Fluorene	ND	1.0	0.090	1	
Benzo (a) Pyrene	ND	1.0	0.12	1		Indeno (1,2,3-c,d) Pyrene	ND	1.0	0.12	1	
Benzo (b) Fluoranthene	ND	1.0	0.13	1		N-Nitrosodimethylamine	ND	1.0	0.084	1	
Benzo (g,h,i) Perylene	ND	1.0	0.12	1		Naphthalene	ND	1.0	0.097	1	
Benzo (k) Fluoranthene	ND	1.0	0.12	1		Phenanthrene	ND	1.0	0.089	1	
Bis(2-Ethylhexyl) Phthalate	ND	1.0	0.14	1		Pyrene	ND	1.0	0.11	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2,4,6-Tribromophenol	64	24-152		2-Fluorobiphenyl	95	33-144	
2-Fluorophenol	93	31-142		Nitrobenzene-d5	113	28-139	
p-Terphenyl-d14	114	23-160		Phenol-d6	93	30-136	

* Analysis not validated.

Level IV

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

POLYCHLORINATED BIPHENYLS (EPA 3510C/8082)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1486-02 (BLQW0018E01 - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016 u	EPA 8082	7B15105	0.33	0.94	ND	0.943	02/15/07	02/16/07	
Aroclor 1221	EPA 8082	7B15105	0.094	0.94	ND	0.943	02/15/07	02/16/07	
Aroclor 1232	EPA 8082	7B15105	0.24	0.94	ND	0.943	02/15/07	02/16/07	
Aroclor 1242	EPA 8082	7B15105	0.24	0.94	ND	0.943	02/15/07	02/16/07	
Aroclor 1248	EPA 8082	7B15105	0.24	0.94	ND	0.943	02/15/07	02/16/07	
Aroclor 1254	EPA 8082	7B15105	0.24	0.94	ND	0.943	02/15/07	02/16/07	
Aroclor 1260	EPA 8082	7B15105	0.28	0.94	ND	0.943	02/15/07	02/16/07	
Surrogate: Decachlorobiphenyl (45-120%)					*96 %*				

Level V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1486-01 (BLSW0001S01 - Water)									
Reporting Units: ug/l									
U Perchlorate	EPA 314.0	7B22154	0.80	4.0	ND	1	02/22/07	02/23/07	
Sample ID: IQB1486-02 (BLQW0018E01 - Water)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	7B22154	0.80	4.0	ND	1	02/22/07	02/23/07	

LEVEL V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

EXTRACTABLE FUEL HYDROCARBONS (EPA 3510C/8015 CADHS Modified)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1486-02 (BLQW0018E01 - Water)									
Reporting Units: mg/l									
EFH (C8 - C11) u	EPA 8015B	7B19055	0.094	0.47	ND	0.943	02/19/07	02/20/07	
EFH (C12 - C14)	EPA 8015B	7B19055	0.094	0.47	ND	0.943	02/19/07	02/20/07	
EFH (C15 - C20)	EPA 8015B	7B19055	0.094	0.47	ND	0.943	02/19/07	02/20/07	
EFH (C21 - C30)	EPA 8015B	7B19055	0.094	0.47	ND	0.943	02/19/07	02/20/07	
Surrogate: n-Octacosane (40-125%)					*84 %*				

Level V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1486

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

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQB1486-02 (BLQW0018E01 - Water) - cont.									
Reporting Units: mg/l									
Chromium VI U	EPA 7199	7B14065	0.00020	0.0020	ND	1	02/14/07	02/14/07	

LEVEL V

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne
Project Manager: D. Hambrick
Analysis/Method: General Minerals
QC Level: V[1]
SDG: L9901965
Matrix: Water
No. of Samples: 1
Date Reviewed: June 17, 2004
Reviewer: A. Lang
Reference: *USEPA SW-846 Methods SM 2320B, 300.0, 335.2, 340.2, 160.1*
Samples Reviewed: B/56 PIT

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC for this sample was signed by both field and laboratory personnel. There was no other sample receipt information provided. The sample in this SDG was accounted for on the COC. The analyses were performed within the required holding times.	No qualifications were required.
3. Method Blanks	The target analytes were not detected in the method blanks associated with the samples in this SDG.	No qualifications were required.
5. LCS/BS	Data were provided for the LCSs for fluoride, TDS, pH, and alkalinity, only. The LCS recoveries for these elements were within the laboratory defined QC limits.	No qualifications were required.
6. Duplicates None	None	No qualifications were required.
7. MS/MSDs None	None	No qualifications were required.
10. Other	None	No qualifications were required.

	Findings	Qualifications
11. Field QC Samples	None	No qualifications were required.
Comments	None	None.

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Groundwater Resources Consultants, Inc.
Project: Boeing-Rocketdyne/SSFL/8640-DOE.B/59DW
Sample Matrix: Water

Service Request: L9901965
Date Collected: 4/29/99
Date Received: 4/29/99

Inorganic Parameters

Sample Name: B/56 PIT
Lab Code: L9901965-001
Test Notes:

Basis: NA

Analyte	Units	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Bicarbonate as CaCO3	mg/L (ppm)	SM 2320B	10	1	NA	5/1/99	160	
Chloride	mg/L (ppm)	300.0	0.5	1	NA	4/30/99	17	
Fluoride	mg/L (ppm)	340.2	0.1	1	NA	4/29/99	0.5	
Nitrate as Nitrogen	mg/L (ppm)	300	0.2	1	NA	4/30/99	ND	U
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	1	NA	4/30/99	210	
Sulfate	mg/L (ppm)	300.0	1.0	1	NA	4/30/99	12	

AMEC VALIDATED

LEVEL V

Approved By: MZS Date: 5/7/99

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