

SOIL

SOIL CASE NARRATIVES AND COCS

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: 02/13/07
Received: 04/04/07
Issued: 04/10/07 16:08

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(s) of Custody, 2 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID

IQD0378-01

CLIENT ID

BLBS0034S02

MATRIX

Soil

Reviewed By:



TestAmerica - Irvine, CA

Michele Chamberlin

Project Manager

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: IQD0378

Sampled: 02/13/07
Received: 04/04/07

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7D05093 Extracted: 04/05/07										
Blank Analyzed: 04/06/2007 (7D05093-BLK1)										
Sodium	ND	50	24	mg/kg wet						
LCS Analyzed: 04/06/2007 (7D05093-BS1)										
Sodium	509	50	24	mg/kg wet	500		102	80-120		
Matrix Spike Analyzed: 04/06/2007 (7D05093-MS1)										
Sodium	657	50	24	mg/kg wet	498	100	112	75-125		
Matrix Spike Dup Analyzed: 04/06/2007 (7D05093-MSD1)										
Sodium	615	50	24	mg/kg wet	498	100	103	75-125	7	20

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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: IQD0378

Sampled: 02/13/07
Received: 04/04/07

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7D04166 Extracted: 04/04/07										
Blank Analyzed: 04/04/2007 (7D04166-BLK1)										
Percent Solids	ND	0.10	0.10	%						
Duplicate Analyzed: 04/04/2007 (7D04166-DUP1)						Source: IQD0376-01				
Percent Solids	65.4	0.10	0.10	%		71		8	20	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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: IQD0378

Sampled: 02/13/07
Received: 04/04/07

DATA QUALIFIERS AND DEFINITIONS

H-1 Sample analysis performed past the method-specified holding time per client's approval.
ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD Relative Percent Difference

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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IQD0378 <Page 6 of 7>

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: IQD0378

Sampled: 02/13/07
Received: 04/04/07

Certification Summary

TestAmerica - Irvine, CA

Method	Matrix	Nelac	California
EPA 160.3 MOD	Soil	N/A	N/A
EPA 6010B	Soil	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

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

IQD0378

ADDITIONAL ANALYSIS REQUEST FORM

Today's Date: 4/14/07 Del Mar Analytical Project Manager: ~~ME~~ MC

Request via: ☐ telephone ☐ chain of custody form ☐ fax transmission ☒ E-mail ☐ other

Client: MWH-San Diego/Boeing Contact: Lisa Tucker

Project: Group 8 - Building 36 - DOE

Date Sampled: 2/13/07 Date Received: 2/14/07

Status: ☐ in progress ☒ completed ☐ received today ☐ received yesterday ☐ on hold ☐ other

**SAMPLE
NUMBER**

**SAMPLE
DESCRIPTION**

**ANALYSIS
REQUESTED**

**SPECIAL
REQUIREMENTS**

IQB1507-04

BUBS0034S02

% solids and Na

* Add-on with new WO# *

VB
4/14
17:43

TURNAROUND STATUS: ☐ Same Day ☐ 24hr ☐ 48hr ☐ 3days

☒ 5days ☐ Standard ☐ No Rush Charge

* due 4/11/07 *



Del Mar Analytical

2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

IQD0378

ADDITIONAL ANALYSIS REQUEST FORM

Today's Date: 4/14/07 Del Mar Analytical Project Manager: ~~ME~~ MC

Request via: ☐ telephone ☐ chain of custody form ☐ fax transmission ☒ E-mail ☐ other

Client: MWH-San Diego/Boeing Contact: Lisa Tucker

Project: Group 8 - Building 36 - DOE

Date Sampled: 2/13/07 Date Received: 2/14/07

Status: ☐ in progress ☒ completed ☐ received today ☐ received yesterday ☐ on hold ☐ other

**SAMPLE
NUMBER**

**SAMPLE
DESCRIPTION**

**ANALYSIS
REQUESTED**

**SPECIAL
REQUIREMENTS**

IQB1507-04

BUBS0034S02

% solids and Na

* Add-on with new WO# *

VB
4/14
17:43

TURNAROUND STATUS: ☐ Same Day ☐ 24hr ☐ 48hr ☐ 3days

☒ 5days ☐ Standard ☐ No Rush Charge

* due 4/11/07 *

CHAIN OF CUSTODY RECORD

Page: 1 of 1

18
2115107
-5101

2. C

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
At Sanav	2/14/2007	Joe. Loun	2/14/07	Joe. Loun	2/14/07	Stamper-Ee	2-14-07
Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:
MWH	1000	YAT	1000	YAT	1945		1945

Comments:

Geotracker EDF ☐ Level IV

Data Validation Package ☒ Level IV

418

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: 02/12/07-02/21/07
Received: 03/20/07
Issued: 03/28/07 1j:28

ELAP f01108CA California ELAP f1197 CSDLAC f102j 6

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(s) of Custody, 3 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID

IQC2078-01

IQC2078-02

IQC2078-03

CLIENT ID

BLBS0031S01

BLBS0030S01

BLBS0034S01

MATRIX

Soil

Soil

Soil

Reviewed By:



TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

ProGct ID: SSFL Nroup 8 - DOE
1891264
Report # umber: IQC2078

Sampled: 02/12/07-02/21/07
Received: 03/20/07

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7C20108 Extracted: 03/20/07										
Blank Analyzed: 03/20/2007 (7C20108-BLK1)										
Sodium	# D	j 0	24	mg/kg wet						
LCS Analyzed: 03/20/2007 (7C20108-BS1)										
Sodium	j 08	j 0	24	mg/kg wet	j 00		102	80-120		
Matrix Spike Analyzed: 03/20/2007 (7C20108-MS1)										
					Source: IQC2099-01					
Sodium	781	j 0	24	mg/kg wet	j 00	310	94	7j -12j		
Matrix Spike Dup Analyzed: 03/20/2007 (7C20108-MSD1)										
					Source: IQC2099-01					
Sodium	794	j 0	24	mg/kg wet	j 00	310	97	7j -12j	2	20

TestAmerica - Irvine, CA
Michele Chamberlin
ProGct Manager

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IQC2078 <Page 4 of 7>

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

ProGct ID: SSFL Nroup 8 - DOE
1891264
Report # umber: IQC2078

Sampled: 02/12/07-02/21/07
Received: 03/20/07

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 7B15123 Extracted: 02/15/07</u>										
Blank Analyzed: 02/16/2007 (7B15123-BLK1)										
Percent Solids	# D	0.10	0.10	%						
Duplicate Analyzed: 02/16/2007 (7B15123-DUP1)										
Percent Solids	88.7	0.10	0.10	%		Source: IQB1216-06 89		0	20	
<u>Batch: 7C02139 Extracted: 03/02/07</u>										
Blank Analyzed: 03/05/2007 (7C02139-BLK1)										
Percent Solids	# D	0.10	0.10	%						
Duplicate Analyzed: 03/05/2007 (7C02139-DUP1)										
Percent Solids	92.3	0.10	0.10	%		Source: IQB3157-12 93		1	20	
<u>Batch: 7C20148 Extracted: 03/20/07</u>										
Blank Analyzed: 03/20/2007 (7C20148-BLK1)										
Percent Solids	# D	0.10	0.10	%						
Duplicate Analyzed: 03/20/2007 (7C20148-DUP1)										
Percent Solids	4.70	0.10	0.10	%		Source: IQC2184-01 4.7		0	20	

TestAmerica - Irvine, CA
Michele Chamberlin
ProGct Manager

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: IQC2078

Sampled: 02/12/07-02/21/07
Received: 03/20/07

DATA QUALIFIERS AND DEFINITIONS

H-1 Sample analysis performed past the method-specified holding time per client's approval.
ND Analyte # OT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD Relative Percent Difference

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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IQC2078 <Page 6 of 7>

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

ProGct ID: SSFL Nroup 8 - DOE
1891264
Report # umber: IQC2078

Sampled: 02/12/07-02/21/07
Received: 03/20/07

Certification Summary

TestAmerica - Irvine, CA

Method	Matrix	Nelac	California
EPA 160.3 MOD	Soil	# /A	# /A
EPA 6010B	Soil	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

TestAmerica - Irvine, CA
Michele Chamberlin
ProGct Manager



1QC2078

ADDITIONAL ANALYSIS REQUEST FORM

Today's Date: 3-19-07 Del Mar Analytical Project Manager: Michelle Chamberlin

Request via: ☐ telephone ☐ chain of custody form ☐ fax transmission ☒ E-mail ☐ other

Client: MWH - San Diego / Boeing Contact: _____

Project: SSFL Group 8 / 1891264

Date Sampled: 2-12-07 Date Received: _____

Status: ☐ in progress ☐ completed ☐ received today ☐ received yesterday ☐ on hold ☐ other

SAMPLE NUMBER	SAMPLE DESCRIPTION	ANALYSIS REQUESTED	SPECIAL REQUIREMENTS
IQB 1214 - 06	BLBS 0031 S01	% Solids, Na	Report from Batch 7B15123
IQB 2444 - 02	BLBS 0030 S01	% Solids, Na	Report from Batch 7B02134
IQB 1507 - 03	BLBS 0034 S01	% Solids, Na	

Add to new work order.

3/20/07
737

TURNAROUND STATUS: ☐ Same Day ☐ 24hr ☐ 48hr ☐ 3days

☐ 5days ☒ Standard ☐ No Rush Charge

Due 3-30



1QC2078

ADDITIONAL ANALYSIS REQUEST FORM

Today's Date: 3-19-07 Del Mar Analytical Project Manager: Michelle Chamberlin

Request via: ☐ telephone ☐ chain of custody form ☐ fax transmission ☒ E-mail ☐ other

Client: MWH - San Diego / Boeing Contact: _____

Project: SSFL Group 8 / 1891264

Date Sampled: 2-12-07 Date Received: _____

Status: ☐ in progress ☐ completed ☐ received today ☐ received yesterday ☐ on hold ☐ other

SAMPLE NUMBER	SAMPLE DESCRIPTION	ANALYSIS REQUESTED	SPECIAL REQUIREMENTS
IQB 1214 - 06	BLBS 0031 S01	% Solids, Na	Report from Batch 7B15123
IQB 2444 - 02	BLBS 0030 S01	% Solids, Na	Report from Batch 7B02134
IQB 1507 - 03	BLBS 0034 S01	% Solids, Na	

Add to new work order.

3/20/07
737

TURNAROUND STATUS: ☐ Same Day ☐ 24hr ☐ 48hr ☐ 3days

☐ 5days ☒ Standard ☐ No Rush Charge

Due 3-30

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: 02/21/07
Received: 02/22/07
Issued: 03/09/07 12:20

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.

SAMPLE CROSS REFERENCE

LABORATORY ID

IQB2449-01

IQB2449-02

CLIENT ID

BLBS0030D01

BLBS0030S01

MATRIX

Soil

Soil

Reviewed By:



TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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: IQB2449

Sampled: 02/21/07
Received: 02/22/07

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: BLBS0030D01 (IQB2449-01) - Soil					
EPA 9045C	1	02/21/2007 13:59	02/22/2007 20:30	02/23/2007 11:55	02/23/2007 13:20
Sample ID: BLBS0030S01 (IQB2449-02) - Soil					
EPA 9045C	1	02/21/2007 13:59	02/22/2007 20:30	02/23/2007 11:55	02/23/2007 13:20

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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IQB2449 <Page 3 of 6>

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: IQB2449

Sampled: 02/21/07
Received: 02/22/07

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 7B23117 Extracted: 02/23/07</u>											
Duplicate Analyzed: 02/23/2007 (7B23117-DUP1)						Source: IQB2448-01					
pH	6.46	NA	0.00	pH Units		6.49			1	5	
Duplicate Analyzed: 02/23/2007 (7B23117-DUP2)						Source: IQB2449-01					
pH	9.56	NA	0.00	pH Units		9.51			1	5	
<u>Batch: 7C02139 Extracted: 03/02/07</u>											
Blank Analyzed: 03/05/2007 (7C02139-BLK1)											
Percent Solids	ND	0.10	0.10	%							
Duplicate Analyzed: 03/05/2007 (7C02139-DUP1)						Source: IQB3157-12					
Percent Solids	92.3	0.10	0.10	%		93			1	20	
<u>Batch: 7C03038 Extracted: 03/03/07</u>											
Blank Analyzed: 03/03/2007 (7C03038-BLK1)											
Chromium VI	ND	0.20	0.020	mg/kg wet							
LCS Analyzed: 03/03/2007 (7C03038-BS1)											
Chromium VI	4.53	0.20	0.020	mg/kg wet	5.00		91	65-110			
Matrix Spike Analyzed: 03/03/2007 (7C03038-MS1)						Source: IQB2449-01					
Chromium VI	5.03	0.22	0.022	mg/kg dry	5.38	0.12	91	55-110			
Matrix Spike Dup Analyzed: 03/03/2007 (7C03038-MSD1)						Source: IQB2449-01					
Chromium VI	4.12	0.22	0.022	mg/kg dry	5.38	0.12	74	55-110	20	20	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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: IQB2449

Sampled: 02/21/07
Received: 02/22/07

DATA QUALIFIERS AND DEFINITIONS

J Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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IQB2449 <Page 5 of 6>

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: IQB2449

Sampled: 02/21/07
Received: 02/22/07

Certification Summary

TestAmerica - Irvine, CA

Method	Matrix	Nelac	California
EPA 160.3 MOD	Soil	N/A	N/A
EPA 7199	Soil	X	X
EPA 9045C	Soil	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

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

CHAIN OF CUSTODY RECORD

COB #:

Page: 1 of 1

Customer Information			Project Information			Project Information		
Site:	SSFL	Client Name:	DOE	Collector:	Shelby Valenzuela	Boeing PM:		
Company:	MWH	Sampling Event:	Group 8 Data Gaps-Soil	Contact #:				
Report to:	Lisa Tucker	Project Number:	1891264	Requested Analyses				
Address:	9444 Farnham Street	Project Manager:	Diana Buchanan	Legend: Numerical values for analyses equate to turn around time in days H - Hold EH - Extract_Hold				
	Suite 300	PM Phone #:	(626) 568-6897					
	San Diego	Field Contact:						
	CA	Field Contact #:						
Email:	92123	Lab Name:	Test America, Inc.	pH by SW8045C - Soil Metals 7199 Soil Chromium 6 % Solids - Soil				
	boeingdms@ch2m.com	Lab Contact:	Michele Chamberlin					
	Lisa Tucker@mwglobal.com	Lab Address:	17461 Derian Ave, Suite 100					
		Lab Phone:	Irvine, CA 92606					
			(949) 261-1022					
Sample Name		Matrix	Date	Time	No. of Containers			
BLBS0030D01	Soil		2/21/2007	13:59	1			
BLBS0030S01	Soil		2/21/2007	13:59	1			
						Comments		

4/10 ER 2100

1. Relinquished by:		Date:	2. Received by:		Date:	3. Relinquished by:		Date:	4. Received by:		Date:
Company:	MWH	2/22/2007	Company:	TEST AMERICA INC	02/22/07	Company:	TEST AMERICA	02/22/07	Company:	TEST AMERICA	02/22/07
		1510			13:59			13:59			2030
Comments:											

Geotracker EDF ☐ Level IV

Data Validation Package ☒

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: 02/13/07
Received: 02/14/07
Issued: 03/08/07 10:37

NELAP #01108CA California ELAP#1197 CSDLAC #10256

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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 8270 SIM PAH's data were added.

LABORATORY ID

IQB1507-01
IQB1507-02
IQB1507-03
IQB1507-04

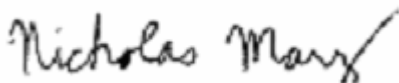
CLIENT ID

BLBS0035S01
BLBS0033S01
BLBS0034S01
BLBS0034S02

MATRIX

Soil
Soil
Soil
Soil

Reviewed By:



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

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: IQB1507

Sampled: 02/13/07
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: BLBS0035S01 (IQB1507-01) - Soil					
EPA 9045C	1	02/13/2007 10:05	02/14/2007 19:45	02/15/2007 11:00	02/15/2007 11:50
Sample ID: BLBS0033S01 (IQB1507-02) - Soil					
EPA 9045C	1	02/13/2007 11:05	02/14/2007 19:45	02/15/2007 11:00	02/15/2007 11:50

TestAmerica - Irvine, CA
Nicholas Marz For 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.*

IQB1507 <Page 5 of 12>

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: IQB1507

Sampled: 02/13/07
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: 7B15106 Extracted: 02/15/07											
Blank Analyzed: 02/15/2007 (7B15106-BLK1)											
Antimony	ND	1.0	0.030	mg/kg wet							
Arsenic	ND	0.50	0.25	mg/kg wet							
Barium	ND	0.50	0.080	mg/kg wet							
Beryllium	ND	0.30	0.040	mg/kg wet							
Cadmium	ND	0.50	0.025	mg/kg wet							
Chromium	ND	1.0	0.35	mg/kg wet							
Cobalt	ND	0.50	0.080	mg/kg wet							
Copper	ND	1.0	0.20	mg/kg wet							
Lead	ND	0.50	0.050	mg/kg wet							
Molybdenum	ND	1.0	0.10	mg/kg wet							
Nickel	ND	1.0	0.45	mg/kg wet							
Selenium	ND	1.0	0.20	mg/kg wet							
Silver	ND	0.50	0.050	mg/kg wet							
Thallium	ND	0.50	0.10	mg/kg wet							
Vanadium	ND	1.0	0.40	mg/kg wet							
Zinc	ND	10	1.3	mg/kg wet							
LCS Analyzed: 02/15/2007 (7B15106-BS1)											
Antimony	44.9	1.0	0.030	mg/kg wet	50.0		90	80-120			
Arsenic	44.3	0.50	0.25	mg/kg wet	50.0		89	80-120			
Barium	44.7	0.50	0.080	mg/kg wet	50.0		89	80-120			
Beryllium	50.1	0.30	0.040	mg/kg wet	50.0		100	80-120			
Cadmium	44.3	0.50	0.025	mg/kg wet	50.0		89	80-120			
Chromium	47.0	1.0	0.35	mg/kg wet	50.0		94	80-120			
Cobalt	47.0	0.50	0.080	mg/kg wet	50.0		94	80-120			
Copper	47.0	1.0	0.20	mg/kg wet	50.0		94	80-120			
Lead	44.4	0.50	0.050	mg/kg wet	50.0		89	80-120			
Molybdenum	45.5	1.0	0.10	mg/kg wet	50.0		91	80-120			
Nickel	47.3	1.0	0.45	mg/kg wet	50.0		95	80-120			
Selenium	41.6	1.0	0.20	mg/kg wet	50.0		83	80-120			
Silver	28.1	0.50	0.050	mg/kg wet	25.0		112	80-120			
Thallium	44.3	0.50	0.10	mg/kg wet	50.0		89	80-120			
Vanadium	47.0	1.0	0.40	mg/kg wet	50.0		94	80-120			
Zinc	40.9	10	1.3	mg/kg wet	50.0		82	80-120			

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

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: IQB1507

Sampled: 02/13/07
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: 7B15106 Extracted: 02/15/07											
Matrix Spike Analyzed: 02/15/2007 (7B15106-MS1)						Source: IQB1487-01					
Antimony	14.6	1.1	0.034	mg/kg dry	57.3	0.11	25	75-125			M2
Arsenic	45.9	0.57	0.29	mg/kg dry	57.3	2.5	76	75-125			
Barium	132	0.57	0.092	mg/kg dry	57.3	93	68	75-125			M2
Beryllium	48.5	0.34	0.046	mg/kg dry	57.3	0.55	84	75-125			
Cadmium	44.6	0.57	0.029	mg/kg dry	57.3	0.23	77	75-125			
Chromium	65.2	1.1	0.40	mg/kg dry	57.3	19	81	75-125			
Cobalt	50.5	0.57	0.092	mg/kg dry	57.3	5.5	79	75-125			
Copper	49.7	1.1	0.23	mg/kg dry	57.3	8.9	71	75-125			M2
Lead	52.4	0.57	0.057	mg/kg dry	57.3	4.5	84	75-125			
Molybdenum	45.8	1.1	0.11	mg/kg dry	57.3	0.56	79	75-125			
Nickel	55.2	1.1	0.52	mg/kg dry	57.3	11	77	75-125			
Selenium	41.2	1.1	0.23	mg/kg dry	57.3	0.30	71	75-125			M2
Silver	27.6	0.57	0.057	mg/kg dry	28.6	ND	97	75-125			
Thallium	48.8	0.57	0.11	mg/kg dry	57.3	0.27	85	75-125			
Vanadium	90.0	1.1	0.46	mg/kg dry	57.3	34	98	75-125			
Zinc	76.3	11	1.5	mg/kg dry	57.3	48	49	75-125			M2
Matrix Spike Dup Analyzed: 02/15/2007 (7B15106-MSD1)						Source: IQB1487-01					
Antimony	15.7	1.1	0.034	mg/kg dry	57.3	0.11	27	75-125	7	20	M2
Arsenic	45.3	0.57	0.29	mg/kg dry	57.3	2.5	75	75-125	1	20	
Barium	133	0.57	0.092	mg/kg dry	57.3	93	70	75-125	1	20	M2
Beryllium	48.1	0.34	0.046	mg/kg dry	57.3	0.55	83	75-125	1	20	
Cadmium	44.9	0.57	0.029	mg/kg dry	57.3	0.23	78	75-125	1	20	
Chromium	64.2	1.1	0.40	mg/kg dry	57.3	19	79	75-125	2	20	
Cobalt	50.6	0.57	0.092	mg/kg dry	57.3	5.5	79	75-125	0	20	
Copper	49.4	1.1	0.23	mg/kg dry	57.3	8.9	71	75-125	1	20	M2
Lead	52.5	0.57	0.057	mg/kg dry	57.3	4.5	84	75-125	0	20	
Molybdenum	45.5	1.1	0.11	mg/kg dry	57.3	0.56	78	75-125	1	20	
Nickel	55.0	1.1	0.52	mg/kg dry	57.3	11	77	75-125	0	20	
Selenium	41.4	1.1	0.23	mg/kg dry	57.3	0.30	72	75-125	1	20	M2
Silver	27.7	0.57	0.057	mg/kg dry	28.6	ND	97	75-125	0	20	
Thallium	49.3	0.57	0.11	mg/kg dry	57.3	0.27	86	75-125	1	20	
Vanadium	89.0	1.1	0.46	mg/kg dry	57.3	34	96	75-125	1	20	
Zinc	76.8	11	1.5	mg/kg dry	57.3	48	50	75-125	1	20	M2

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

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: IQB1507

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

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7B15107 Extracted: 02/15/07											
Blank Analyzed: 02/15/2007 (7B15107-BLK1)											
Aluminum	ND	10	5.0	mg/kg wet							
Boron	ND	5.0	1.0	mg/kg wet							
Lithium	ND	6.3	3.8	mg/kg wet							
Potassium	34.2	50	19	mg/kg wet							J
Sodium	ND	50	24	mg/kg wet							
LCS Analyzed: 02/15/2007 (7B15107-BS1)											
Aluminum	43.1	10	5.0	mg/kg wet	50.0		86	80-120			
Boron	46.6	5.0	1.0	mg/kg wet	50.0		93	80-120			
Lithium	47.6	6.3	3.8	mg/kg wet	50.0		95	80-120			
Potassium	510	50	19	mg/kg wet	500		102	80-120			
Sodium	485	50	24	mg/kg wet	500		97	80-120			
Matrix Spike Analyzed: 02/15/2007 (7B15107-MS1)											
						Source: IQB1487-01					
Aluminum	16700	11	5.7	mg/kg dry	57.3	14000	4712	75-125			MHA
Boron	56.1	5.7	1.1	mg/kg dry	57.3	4.0	91	75-125			
Lithium	75.1	7.2	4.4	mg/kg dry	57.3	23	91	75-125			
Potassium	4210	57	22	mg/kg dry	573	3500	124	75-125			
Sodium	622	57	27	mg/kg dry	573	73	96	75-125			
Matrix Spike Dup Analyzed: 02/15/2007 (7B15107-MSD1)											
						Source: IQB1487-01					
Aluminum	16000	11	5.7	mg/kg dry	57.3	14000	3490	75-125	4	20	MHA
Boron	55.6	5.7	1.1	mg/kg dry	57.3	4.0	90	75-125	1	20	
Lithium	73.3	7.2	4.4	mg/kg dry	57.3	23	88	75-125	2	20	
Potassium	3960	57	22	mg/kg dry	573	3500	80	75-125	6	20	
Sodium	583	57	27	mg/kg dry	573	73	89	75-125	6	20	

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

MWH-San Diego/Boeing
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Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1507

Sampled: 02/13/07
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: 7B16119 Extracted: 02/16/07											
Blank Analyzed: 02/16/2007 (7B16119-BLK1)											
Zirconium	ND	25	1.5	mg/kg wet							
LCS Analyzed: 02/16/2007 (7B16119-BS1)											
Zirconium	47.8	25	1.5	mg/kg wet	50.0		96	80-120			
Matrix Spike Analyzed: 02/16/2007 (7B16119-MS1)						Source: IQB1216-06					
Zirconium	29.9	28	1.7	mg/kg dry	56.3	1.7	50	75-125			M2
Matrix Spike Dup Analyzed: 02/16/2007 (7B16119-MSD1)						Source: IQB1216-06					
Zirconium	29.1	28	1.7	mg/kg dry	56.3	1.7	49	75-125	3	20	M2

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

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

Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1507

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

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7B15099 Extracted: 02/15/07										
Duplicate Analyzed: 02/15/2007 (7B15099-DUP1)						Source: IQB1375-01				
pH	4.55	NA	0.00	pH Units		4.55		0	5	
Batch: 7B16117 Extracted: 02/16/07										
Blank Analyzed: 02/19/2007 (7B16117-BLK1)										
Percent Solids	ND	0.10	0.10	%						
Duplicate Analyzed: 02/19/2007 (7B16117-DUP1)						Source: IQB1519-01				
Percent Solids	18.0	0.10	0.10	%		18		0	20	
Duplicate Analyzed: 02/19/2007 (7B16117-DUP2)						Source: IQB1519-02				
Percent Solids	19.9	0.10	0.10	%		20		1	20	

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

MWH-San Diego/Boeing
9444 Farnham Street, Suite 300
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Project ID: SSFL Group 8 - DOE
1891264
Report Number: IQB1507

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

DATA QUALIFIERS AND DEFINITIONS

J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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

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IQB1507 <Page 11 of 12>

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: IQB1507

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

Certification Summary

TestAmerica - Irvine, CA

Method	Matrix	Nelac	California
EPA 160.3 MOD	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 6020	Soil	X	X
EPA 9045C	Soil	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: IQB1507-03, IQB1507-04

Analysis Performed: Dry Wt
Samples: IQB1507-03, IQB1507-04

Analysis Performed: Extract/Hold-8270C-SIM
Samples: IQB1507-02

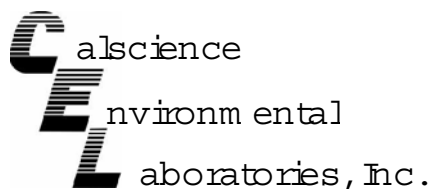
Weck Laboratories, Inc

14859 E. Clark Avenue - City of Industry, CA 91745

Analysis Performed: Mercury-7471 (dry wt)
Samples: IQB1507-01, IQB1507-02

TestAmerica - Irvine, CA

Nicholas Marz For Michele Chamberlin
Project Manager



February 27, 2007

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

Subject: Calscience Work Order No.: 07-02-1062
Client Reference: QB1507

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 2/16/2007 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,

A handwritten signature in black ink, which appears to read 'Steven L. Lane', is enclosed in a hand-drawn oval.

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

Case Narrative for 07-02-1062

Sample Condition on Receipt

Three soil samples were received as part of this Work Order on February 16, 2007. The sample was transferred to the laboratory in an ice-chest following strict chain-of-custody procedures. The temperature (3.8°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 its 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

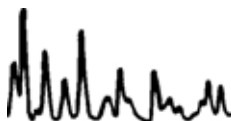
Frequency and control criteria for initial and continuing calibration verifications were met.

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.



Case Narrative for 07-02-1062

Table A : Matrix Spike /Matrix Spike Duplicate outside acceptable limits	
EPA Method 8270C SIM	
Batch #	Analytes(s)
070219S05	2-Nitrophenol*, 4-Chloro-3-Methylphenol*, Di-n-ButylPhthalate* & DiethylPhthalate*

*The relative percent difference (RPD) are outside acceptable limits. These recoveries have been flagged with a "u" qualifier.

Laboratory Control Samples

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

Surrogates

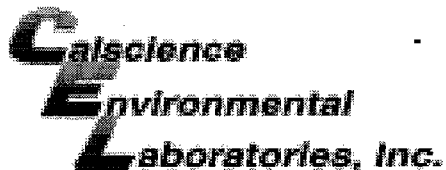
Surrogate recoveries for all samples were within acceptable control limits.

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
Sample Summary Report

WORK ORDER #: 07-02-1062

QAPP: 0000

#	Client Sample ID	Matrix	Date Collected	NoC	Comment
1	QB1507-02	S	02/13/2007	1	8270:Extract & HOLD samples -1
2	QB1507-03	S	02/13/2007	1	
3	QB1507-04	S	02/13/2007	1	


 WORK ORDER #: **07** - 0 2 - 1 0 6 2

 Cooler 1 of 1

SAMPLE RECEIPT FORM

 CLIENT: Test America

 DATE: 02.16.07
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.
3.8 °C IR thermometer.
☐ Ambient temperature.

 Initial: SS
CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____

 Not Present: SS
 Initial: SS
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: SS
COMMENTS:

1062

SUBCONTRACT ORDER - PROJECT # IQB1507

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

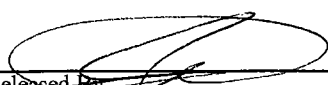
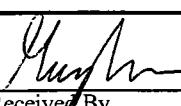
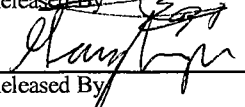
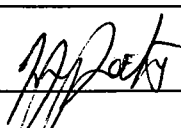
Work Order Comments: Level 4 QC. Boeing EDD, Report to MDL w/ J flags, report in dry weight, 2 week TAT.

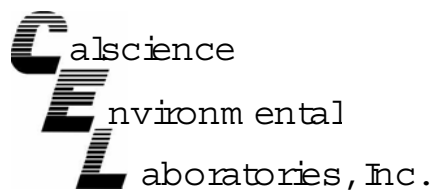
Standard TAT is requested unless specific due date is requested => Due Date: _____ **Initials:** _____

Analysis	Expiration	Comments
Sample ID: IQB1507-02 Soil Sampled: 02/13/07 11:05		
Extract/Hold-8270C-SIM-OUT	02/27/07 11:05	Sub to Calscience
Containers Supplied: Brass Sleeve (IQB1507-02B)		
Sample ID: IQB1507-03 Soil Sampled: 02/13/07 12:00		
8270C (SIM)-OUT	02/27/07 12:00	NDMA+PAHS+phthltes(1 run).Sub=Calsci,calc w/ sx wt
Dry Wt-OUT	03/13/07 12:00	% solids, sub to Calscience, \$10/sample
Level 3 Data Package - Out	03/13/07 12:00	Sub to Calscience,TA Lvl IV,EDD=Boeing
Containers Supplied: 4 oz Jar (IQB1507-03B)		
Sample ID: IQB1507-04 Soil Sampled: 02/13/07 12:05		
8270C (SIM)-OUT	02/27/07 12:05	NDMA+PAHS+phthltes(1 run).Sub=Calsci,calc w/ sx wt
Dry Wt-OUT	03/13/07 12:05	% solids, sub to Calscience, \$10/sample
Level 3 Data Package - Out	03/13/07 12:05	Sub to Calscience,TA Lvl IV,EDD=Boeing
Containers Supplied: Brass Sleeve (IQB1507-04B)		

SAMPLE INTEGRITY:

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

Released By: 	Date: 2-16-07	Time: 7:44	Received By: 	Date: 2-16-07	Time: 7:00
Released By: 	Date: 2-16-07	Time: 07:44	Received By: 	Date: 2-16-07	Time: 07:44



Quality Control-Duplicate



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

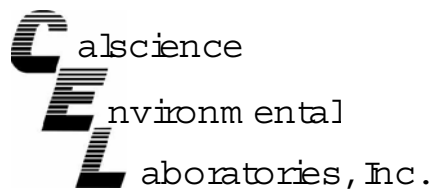
Date Received: 02/16/07
Work Order No: 07-02-1062
Preparation: N/A
Method: EPA 160.3

Project: QB1507

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
07-02-1063-3	Solid	N/A	N/A	02/20/07	70220TSD1

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Solids, Total	89.4	89.6	0	0-25	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



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Irvine, CA 92614-5845

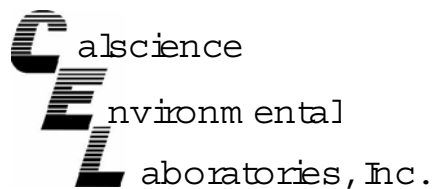
Date Received: 02/16/07
Work Order No: 07-02-1062
Preparation: EPA 3545
Method: EPA 8270C SM

Project QB1507

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
07-02-1177-3	Solid	GC/MS N	02/19/07	02/22/07	070219S05

Parameter	MS % REC	MSD % REC	% REC CL	RPD	RPD CL	Qualifiers
2,4,6-Trichlorophenol	73	88	40-160	19	0-20	
2,4-Dichlorophenol	74	90	40-160	20	0-20	
2-Methylphenol	78	89	40-160	13	0-20	
2-Nitrophenol	92	117	40-160	24	0-20	4
4-Chloro-3-Methylphenol	82	101	40-160	21	0-20	4
Acenaphthene	88	106	40-106	18	0-20	
Benzo (a) Pyrene	93	112	17-163	19	0-20	
Chrysene	93	107	17-168	14	0-20	
Dibutylphthalate	101	130	40-160	24	0-20	4
Diethylphthalate	86	111	40-160	25	0-20	4
Fluoranthene	93	112	26-137	18	0-20	
Fluorene	90	109	59-121	19	0-20	
N-Nitrosodimethylamine	92	112	40-160	19	0-20	
Naphthalene	89	103	21-133	14	0-20	
Phenanthrene	86	102	54-120	18	0-20	
Phenol	75	91	40-160	19	0-20	
Pyrene	90	113	6-156	23	0-46	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



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Irvine, CA 92614-5845

Date Received: N/A
Work Order No: 07-02-1062
Preparation: EPA 3545
Method: EPA 8270C SM

Project: QB1507

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-413-26	Solid	GC/MS N	02/16/07	02/23/07	070219L05

Parameter	LCS % REC	LCSD % REC	% REC CL	RPD	RPD CL	Qualifiers
2,4,6-Trichlorophenol	76	76	40-160	0	0-20	
2,4-Dichlorophenol	74	74	40-160	1	0-20	
2-Methylphenol	85	85	40-160	0	0-20	
2-Nitrophenol	88	91	40-160	4	0-20	
4-Chloro-3-Methylphenol	88	87	40-160	1	0-20	
Acenaphthene	84	83	48-108	1	0-11	
Benzo (a) Pyrene	89	89	17-163	1	0-20	
Chrysene	84	83	17-168	1	0-20	
Dibutylphthalate	90	91	40-160	1	0-20	
Diethylphthalate	87	86	40-160	1	0-20	
Fluoranthene	88	87	26-137	1	0-20	
Fluorene	85	84	59-121	1	0-20	
N-Nitrosodimethylaniline	88	84	40-160	4	0-20	
Naphthalene	83	83	21-133	0	0-20	
Phenanthrene	82	82	54-120	0	0-20	
Phenol	77	78	40-160	2	0-20	
Pyrene	93	95	28-106	2	0-16	

RPD - Relative Percent Difference, CL - Control Limit

Work Order Number: 07-02-1062

<u>Qualifier</u>	<u>Definition</u>
*	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	Non-target 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.



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

Report Date: 03/02/07 16:55

Received Date: 02/16/07 11:18

Turn Around: Normal

Phone: (949) 261-1022

Fax: (949) 260-3297

Work Order #: 7021615

Client Project: IQB1507

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 02/16/07 11:18 with the Chain of Custody document. The samples were received in good condition, at 3.2 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Reviewed by:

Taylor Malignat

Taylor Malignat

Project Manager



Page 1 of 7





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: 7021615
Project ID: IQB1507

Date Received: 02/16/07 11:18
Date Reported: 03/02/07 16:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IQB1507-01	client		7021615-01	Soil	02/13/07 10:05
IQB1507-02	client		7021615-02	Soil	02/13/07 11:05



Weck Laboratories, Inc.
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Phone 626.336.2139 Fax 626.336.2634

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

Report ID: 7021615
Project ID: IQB1507

Date Received: 02/16/07 11:18
Date Reported: 03/02/07 16:55

QUALITY CONTROL SECTION



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: 7021615
Project ID: IQB1507

Date Received: 02/16/07 11:18
Date Reported: 03/02/07 16:55

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch W7B0833 - EPA 7471A										
Blank (W7B0833-BLK1)				Analyzed: 02/22/07						
Mercury, Total	0.000902	0.010	mg/kg wet							J
LCS (W7B0833-BS1)				Analyzed: 02/22/07						
Mercury, Total	0.0806	0.010	mg/kg wet	0.0833		96.8	80-120			
Matrix Spike (W7B0833-MS1)				Source: 7022010-03		Analyzed: 02/22/07		QM-02		
Mercury, Total	2.20	0.44	mg/kg dry	0.0876	2.2	0.00	70-130			
Matrix Spike Dup (W7B0833-MSD1)				Source: 7022010-03		Analyzed: 02/22/07				
Mercury, Total	2.31	0.44	mg/kg dry	0.0905	2.2	122	70-130	4.88	25	QM-02



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Phone 626.336.2139 Fax 626.336.2634

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

Report ID: 7021615
Project ID: IQB1507

Date Received: 02/16/07 11:18
Date Reported: 03/02/07 16:55

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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.

CHAIN OF CUSTODY RECORD

COC #: *1001367*
 MWH-SV20070213_00
 Page: 1 of 1

Customer Information				Project Information			
Site:	SSFL	Client Name:	DOE	Collector:	Shelby Valenzuela	Boeing PM:	
Company:	MWH	Sampling Event:	Group 8 Data Gaps-Soil	Contact #:			
Report to:	Lisa Tucker	Project Number:	1991264	Requested Analyses SVOCs by SW8270C SIM - Soil pH by SW9045C - Soil PCB by SW8082 - Soil Metals 7471A Soil Mercury Metals 7199 Soil Chromium 6 Metals 6010B/6020 Soil Group 8 % Solids - Soil			
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.				
	boeingdms@ch2m.com	Lab Contact:	Michele Chamberlin				
Email:	Lisa.Tucker@mwhglobal.com	Lab Address:	17461 Derian Ave, Suite 100				
			Irvine, CA 92606				
		Lab Phone:	(949) 281-1022				
Sample Name	Matrix	Date	Time	No. of Containers			
BLBS0035S01	Soil	2/13/2007	10:05	2	10	EH	10
BLBS0033S01	Soil	2/13/2007	11:05	2	10	EH	10
BLBS0034S01	Soil	2/13/2007	12:00	1	10		10
BLBS0034S02	Soil	2/13/2007	12:05	2	10		10
					Instructions/TAT Legend: Numerical values for analyses equate to turn around time in days H - Hold EH - Extract_Hold		
					Comments		

2/15/07
1015

2°C

1. Relinquished by:	Date: 2/14/2007	2. Received by:	Date: 2/14/07	3. Relinquished by:	Date: 2/14/07	4. Received by:	Date: 2-14-07
<i>of Sarah</i>		<i>[Signature]</i>	<i>2/14/07</i>	<i>[Signature]</i>	<i>2/14/07</i>	<i>[Signature]</i>	<i>2-14-07</i>
Company: MWH	Time: 1000	Company: TAI	Time: 1000	Company: TAI	Time: 1945	Company:	Time: 1945
Comments: ☐ Geotracker EDF ☒ Data Validation Package ☒ Level IV							

498

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: 02/13/07
Received: 02/14/07
Issued: 03/08/07 10:29

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.

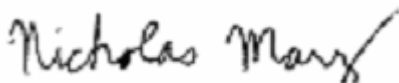
ADDITIONAL INFORMATION: Enclosed are complete final results. The results for EPA 1613 and EPA 7470 data were added.

LABORATORY ID
IQB1505-01

CLIENT ID
BHBS0005S01

MATRIX
Soil

Reviewed By:



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

MWH-San Diego/Boeing	Project ID: SSFL Group 8 - DOE	
9444 Farnham Street, Suite 300	1891264	Sampled: 02/13/07
San Diego, CA 92123	Report Number: IQB1505	Received: 02/14/07
Attention: Lisa J. Tucker		

S(ORT (OLD TIME DETAIL REPORT

	(old Time 7n days3	DateTime Sampled	DateTime Received	DateTime Extracted	DateTime Analyzed
Sample ID: B(BS0005S01 7QB1505-013- Soil EPA 9045C	1	02/13/2007 14:30	02/14/2007 19:45	02/15/2007 11:00	02/15/2007 11:50

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

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: IQB1505

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

METALS

METALS

Analyte	Result	Reporting Limit	MDL	Units	Sp/ e Level	Source Result	H REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 4B1510P Extracted: 02U504										
Blank Analyzed: 02U504 4B1510P-BLK13										
Antimony	ND	1.0	0.030	mg/kg wet						
Arsenic	ND	0.50	0.25	mg/kg wet						
Barium	ND	0.50	0.080	mg/kg wet						
Beryllium	ND	0.30	0.040	mg/kg wet						
Cadmium	ND	0.50	0.025	mg/kg wet						
Chromium	ND	1.0	0.35	mg/kg wet						
Cobalt	ND	0.50	0.080	mg/kg wet						
Copper	ND	1.0	0.20	mg/kg wet						
Lead	ND	0.50	0.050	mg/kg wet						
Molybdenum	ND	1.0	0.10	mg/kg wet						
Nickel	ND	1.0	0.45	mg/kg wet						
Selenium	ND	1.0	0.20	mg/kg wet						
Silver	ND	0.50	0.050	mg/kg wet						
Thallium	ND	0.50	0.10	mg/kg wet						
Vanadium	ND	1.0	0.40	mg/kg wet						
Zinc	ND	10	1.3	mg/kg wet						
LCS Analyzed: 02U504 4B1510P-BS13										
Antimony	44.9	1.0	0.030	mg/kg wet	50.0		90	80-120		
Arsenic	44.3	0.50	0.25	mg/kg wet	50.0		89	80-120		
Barium	44.7	0.50	0.080	mg/kg wet	50.0		89	80-120		
Beryllium	50.1	0.30	0.040	mg/kg wet	50.0		100	80-120		
Cadmium	44.3	0.50	0.025	mg/kg wet	50.0		89	80-120		
Chromium	47.0	1.0	0.35	mg/kg wet	50.0		94	80-120		
Cobalt	47.0	0.50	0.080	mg/kg wet	50.0		94	80-120		
Copper	47.0	1.0	0.20	mg/kg wet	50.0		94	80-120		
Lead	44.4	0.50	0.050	mg/kg wet	50.0		89	80-120		
Molybdenum	45.5	1.0	0.10	mg/kg wet	50.0		91	80-120		
Nickel	47.3	1.0	0.45	mg/kg wet	50.0		95	80-120		
Selenium	41.6	1.0	0.20	mg/kg wet	50.0		83	80-120		
Silver	28.1	0.50	0.050	mg/kg wet	25.0		112	80-120		
Thallium	44.3	0.50	0.10	mg/kg wet	50.0		89	80-120		
Vanadium	47.0	1.0	0.40	mg/kg wet	50.0		94	80-120		
Zinc	40.9	10	1.3	mg/kg wet	50.0		82	80-120		

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

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: IQB1505

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

MET(OD BLANK)QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	) nits	Spi/ e Level	Source Result	H REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 4B1510P Extracted: 02U5U04											
Matrix Spi/ e Analyzed: 02U5U004 74B1510P-MS13						Source: IQB1924-01					
Antimony	14.6	1.1	0.034	mg/kg dry	57.3	0.11	25	75-125			M2
Arsenic	45.9	0.57	0.29	mg/kg dry	57.3	2.5	76	75-125			
Barium	132	0.57	0.092	mg/kg dry	57.3	93	68	75-125			M2
Beryllium	48.5	0.34	0.046	mg/kg dry	57.3	0.55	84	75-125			
Cadmium	44.6	0.57	0.029	mg/kg dry	57.3	0.23	77	75-125			
Chromium	65.2	1.1	0.40	mg/kg dry	57.3	19	81	75-125			
Cobalt	50.5	0.57	0.092	mg/kg dry	57.3	5.5	79	75-125			
Copper	49.7	1.1	0.23	mg/kg dry	57.3	8.9	71	75-125			M2
Lead	52.4	0.57	0.057	mg/kg dry	57.3	4.5	84	75-125			
Molybdenum	45.8	1.1	0.11	mg/kg dry	57.3	0.56	79	75-125			
Nickel	55.2	1.1	0.52	mg/kg dry	57.3	11	77	75-125			
Selenium	41.2	1.1	0.23	mg/kg dry	57.3	0.30	71	75-125			M2
Silver	27.6	0.57	0.057	mg/kg dry	28.6	ND	97	75-125			
Thallium	48.8	0.57	0.11	mg/kg dry	57.3	0.27	85	75-125			
Vanadium	90.0	1.1	0.46	mg/kg dry	57.3	34	98	75-125			
Zinc	76.3	11	1.5	mg/kg dry	57.3	48	49	75-125			M2
Matrix Spi/ e Dup Analyzed: 02U5U004 74B1510P-MSD13						Source: IQB1924-01					
Antimony	15.7	1.1	0.034	mg/kg dry	57.3	0.11	27	75-125	7	20	M2
Arsenic	45.3	0.57	0.29	mg/kg dry	57.3	2.5	75	75-125	1	20	
Barium	133	0.57	0.092	mg/kg dry	57.3	93	70	75-125	1	20	M2
Beryllium	48.1	0.34	0.046	mg/kg dry	57.3	0.55	83	75-125	1	20	
Cadmium	44.9	0.57	0.029	mg/kg dry	57.3	0.23	78	75-125	1	20	
Chromium	64.2	1.1	0.40	mg/kg dry	57.3	19	79	75-125	2	20	
Cobalt	50.6	0.57	0.092	mg/kg dry	57.3	5.5	79	75-125	0	20	
Copper	49.4	1.1	0.23	mg/kg dry	57.3	8.9	71	75-125	1	20	M2
Lead	52.5	0.57	0.057	mg/kg dry	57.3	4.5	84	75-125	0	20	
Molybdenum	45.5	1.1	0.11	mg/kg dry	57.3	0.56	78	75-125	1	20	
Nickel	55.0	1.1	0.52	mg/kg dry	57.3	11	77	75-125	0	20	
Selenium	41.4	1.1	0.23	mg/kg dry	57.3	0.30	72	75-125	1	20	M2
Silver	27.7	0.57	0.057	mg/kg dry	28.6	ND	97	75-125	0	20	
Thallium	49.3	0.57	0.11	mg/kg dry	57.3	0.27	86	75-125	1	20	
Vanadium	89.0	1.1	0.46	mg/kg dry	57.3	34	96	75-125	1	20	
Zinc	76.8	11	1.5	mg/kg dry	57.3	48	50	75-125	1	20	M2

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

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: IQB1505

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

MET(OD BLANK)QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	) nits	Spi/ e Level	Source Result	H REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 4B15104 Extracted: 02U5U04										
Blan/ Analyzed: 02U5U004 74B15104-BLK13										
Aluminum	ND	10	5.0	mg/kg wet						
Boron	ND	5.0	1.0	mg/kg wet						
Lithium	ND	6.3	3.8	mg/kg wet						
Potassium	34.2	50	19	mg/kg wet						J
Sodium	ND	50	24	mg/kg wet						
LCS Analyzed: 02U5U004 74B15104-BS13										
Aluminum	43.1	10	5.0	mg/kg wet	50.0		86	80-120		
Boron	46.6	5.0	1.0	mg/kg wet	50.0		93	80-120		
Lithium	47.6	6.3	3.8	mg/kg wet	50.0		95	80-120		
Potassium	510	50	19	mg/kg wet	500		102	80-120		
Sodium	485	50	24	mg/kg wet	500		97	80-120		
Matrix Spi/ e Analyzed: 02U5U004 74B15104-MS13										
						Source: IQB1924-01				
Aluminum	16700	11	5.7	mg/kg dry	57.3	14000	4712	75-125		MHA
Boron	56.1	5.7	1.1	mg/kg dry	57.3	4.0	91	75-125		
Lithium	75.1	7.2	4.4	mg/kg dry	57.3	23	91	75-125		
Potassium	4210	57	22	mg/kg dry	573	3500	124	75-125		
Sodium	622	57	27	mg/kg dry	573	73	96	75-125		
Matrix Spi/ e Dup Analyzed: 02U5U004 74B15104-MSD13										
						Source: IQB1924-01				
Aluminum	16000	11	5.7	mg/kg dry	57.3	14000	3490	75-125	4	20
Boron	55.6	5.7	1.1	mg/kg dry	57.3	4.0	90	75-125	1	20
Lithium	73.3	7.2	4.4	mg/kg dry	57.3	23	88	75-125	2	20
Potassium	3960	57	22	mg/kg dry	573	3500	80	75-125	6	20
Sodium	583	57	27	mg/kg dry	573	73	89	75-125	6	20

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

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: IQB1505

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

MET(OD BLANK)QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	) nits	Spi/ e Level	Source Result	H REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 4B1P118 Extracted: 02UP104										
Blan/ Analyzed: 02UP104 74B1P118-BLK13										
Zirconium	ND	25	1.5	mg/kg wet						
LCS Analyzed: 02UP104 74B1P118-BS13										
Zirconium	47.8	25	1.5	mg/kg wet	50.0		96	80-120		
Matrix Spi/ e Analyzed: 02UP104 74B1P118-MS13										
Zirconium	29.9	28	1.7	mg/kg dry	56.3	1.7	50	75-125		M2
Matrix Spi/ e Dup Analyzed: 02UP104 74B1P118-MSD13										
Zirconium	29.1	28	1.7	mg/kg dry	56.3	1.7	49	75-125	3	20 M2

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

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IQB1505 <Page 8 of 11>

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: IQB1505

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

MET(OD BLANK)QC DATA

INOR%ANICS

Analyte	Result	Reporting Limit	MDL	) nits	Spi/ e Level	Source Result	H REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 4B15088 Extracted: 02U5U04										
Duplicate Analyzed: 02U5U004 74B15088-D) P13						Source: IQB1645-01				
pH	4.55	NA	N/A	pH Units		4.55		0	5	
Batch: 4B1P114 Extracted: 02UP04										
Blan/ Analyzed: 02U8U004 74B1P114-BLK13										
Percent Solids	ND	0.10	0.10	%						
Duplicate Analyzed: 02U8U004 74B1P114-D) P13						Source: IQB1518-01				
Percent Solids	18.0	0.10	0.10	%		18		0	20	
Duplicate Analyzed: 02U8U004 74B1P114-D) P23						Source: IQB1518-02				
Percent Solids	19.9	0.10	0.10	%		20		1	20	

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

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: IQB1505

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

DATA Q) ALIFIERS AND DEFINITIONS

J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M(A	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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

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IQB1505 <Page 10 of 11>

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: IQB1505

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

Certification Summary

TestAmerica - Irvine, CA

Method	Matrix	Nelac	California
EPA 160.3 MOD	Soil	N/A	N/A
EPA 6010B	Soil	X	X
EPA 6020	Soil	X	X
EPA 9045C	Soil	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

Paradigm Labs - S) B

5500 Business Dr. - Wilmington, NC 28405

Analysis Performed: 1613-Dioxin-HR OUT
Samples: IQB1505-01

Wec/ Laboratories, Inc

14859 E. Clark Avenue - City of Industry, CA 91745

Analysis Performed: Mercury-7471 (dry wt)
Samples: IQB1505-01

TestAmerica - Irvine, CA

Nicholas Marz For Michele Chamberlin
Project Manager



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 "IQB1505". 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:	1
Your Project Reference:	IQB1505
PAL Project Number:	G579-224

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

Date

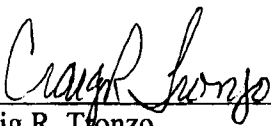
3/1/07



Case Narrative
SGS Project: **G579-224**
Project Name: **IBQ1505**

For Method: 1613

- The submitted sample was accepted into the lab on February 16th, 2007 and extracted on February 19th, 2007 by method 3540C. 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.

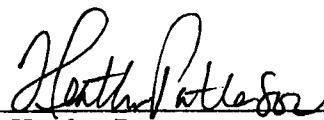
 3/1/07
Craig R. Tonzio
Data Validation/QA Officer

Secondary Review

W. Mike Larkins
Technical Director

Date

Or



Heather Patterson
Director

21 Mar 07

Date



Table of Contents

Section 1: Cover Letter/Case Narrative

Contains the Table of Contents, a project narrative, the client and PAL project identifiers, the number and type of samples, the methodology used to process the samples, and a summary table of sample results. A listing of current certifications by state, a table of abbreviations and qualifiers and the Toxic Equivalent Factors (TEF) are also supplied.

Section 2: Project Information

Contains the chain-of-custody(s), internal chain-of-custody(s) if applicable, sample login summary, sample receipt checklist, and any other project/client specific information.

Section 3: Sample Analytical Results

Contains results for client samples. Sample results include two pages of summarized analytical data and the associated raw data. The raw data includes a quantitation report from the instrumentation used that lists, ion areas, ratios, retention times, concentrations, and signal-to-noise ratios. It also has the selected ion current profiles (SICPs) for all homolog groups and any manual integrations.

Section 4: Quality Control Analytical Results

Contains results for each analytical workgroup associated with the submitted samples. A workgroup consists of the Lab Method Blank (LMB) and the Ongoing Precision and Recovery sample (OPR). All sample preparation data, including dry weight determinations, extraction logs, clean-up logs and observation notes are also documented. Any other supporting QC data will be documented here upon client request.

Section 5: Initial Calibration

Contains a table summarizing calibration data such as relative response factors, concentrations, and percent relative standard deviation. This section also contains related daily instrument QC information: GC performance data, mass resolution check, windows defining mix, and SICPs for all homolog groups and any manual integrations as well as the injection prep and instrument run logs.

Section 6: Continuing Calibration Data

Contains all daily instrument quality control information. This includes mass resolution checks, a table summarizing the window defining peaks, SICPs for the first and last eluters for each homolog group, SICPs documenting GC performance, a summary quantitation report showing RRFs for the Ccal and Ical, and SICPs for all homolog groups and any manual integrations, injection prep and instrumentation runlogs.



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).



Toxic Equivalency Factors

<u>Analyte</u>	<u>WHO* 1998</u>	<u>WHO* 2005</u>	<u>International-89</u>	<u>MADEP*</u>
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 (pg/g)	EDL (pg/g)	Adj. RL (pg/g)	RT (min.)	Ratio	Qualifier
2,3,7,8-TCDD	ND	0.109	1.00	44:08	0.88	Q
1,2,3,7,8-PeCDD	ND	0.109	5.00			
1,2,3,4,7,8-HxCDD	ND	0.133	5.00			
1,2,3,6,7,8-HxCDD	ND	0.133	5.00			
1,2,3,7,8,9-HxCDD	ND	0.132	5.00			
1,2,3,4,6,7,8-HpCDD	ND	0.202	5.00			
OCDD	0.734	0.358	10.0	44:08	0.88	A
2,3,7,8-TCDF	ND	0.128	1.00	33:51	1.61	A
1,2,3,7,8-PeCDF	ND	0.0690	5.00			
2,3,4,7,8-PeCDF	0.0880	0.0710	5.00			
1,2,3,4,7,8-HxCDF	ND	0.0976	5.00			
1,2,3,6,7,8-HxCDF	ND	0.0914	5.00			
2,3,4,6,7,8-HxCDF	ND	0.0982	5.00			
1,2,3,7,8,9-HxCDF	ND	0.130	5.00			
1,2,3,4,6,7,8-HpCDF	ND	0.120	5.00			
1,2,3,4,7,8,9-HpCDF	ND	0.190	5.00			
OCDF	ND	0.275	10.0			
Total TCDDs	ND	0.109	1.00			
Total PeCDDs	ND	0.109	5.00			
Total HxCDDs	ND	0.133	5.00			
Total HpCDDs	ND	0.202	5.00			
Total TCDFs	ND	0.128	1.00			A
Total PeCDFs	0.0880	0.0700	5.00			
Total HxCDFs	ND	0.103	5.00			
Total HpCDFs	ND	0.151	5.00			
ITEF TEQ (ND=0)	0.0447					
ITEF TEQ (ND=1/2)	0.178					

Sample Information

Matrix: 0
Weight / Volume: 10.00 Grams
Solids / Lipids: 100 %
Original pH : NA
Batch ID: WG14123

Laboratory Information

Sample ID: LMB14123 Filename: a22feb07a-4
Retchk: a22feb07a-1
Begin ConCal: a22feb07a-1
Extraction Date: 19-Feb-07
Analysis Date: 22-Feb-07 18:49 Initial Cal: m1613-071006e

Method 1613 - Blank Results

LMB

Analytical Data Summary Sheet

Labeled Standard	Expected Amount (ng)	Measured Amount (ng)	Percent Recovery (%)	RT (min.)	Ratio	Qualifier
<u>Extraction Standards</u>						
¹³ C ₁₂ -2,3,7,8-TCDD	2.00	1.82	91.0	31:09	0.78	Q
¹³ C ₁₂ -1,2,3,7,8-PeCDD	2.00	1.77	88.3	34:02	1.59	
¹³ C ₁₂ -1,2,3,4,7,8-HxCDD	2.00	1.80	89.9	36:36	1.34	
¹³ C ₁₂ -1,2,3,6,7,8-HxCDD	2.00	1.83	91.3	36:41	1.19	
¹³ C ₁₂ -1,2,3,4,6,7,8-HpCDD	2.00	1.70	84.8	39:57	1.06	
¹³ C ₁₂ -OCDD	4.00	3.07	76.8	44:07	0.90	
¹³ C ₁₂ -2,3,7,8-TCDF	2.00	1.86	93.0	30:25	0.79	
¹³ C ₁₂ -1,2,3,7,8-PeCDF	2.00	1.81	90.7	33:14	1.58	
¹³ C ₁₂ -2,3,4,7,8-PeCDF	2.00	1.76	88.2	33:51	1.59	
¹³ C ₁₂ -1,2,3,4,7,8-HxCDF	2.00	1.85	92.6	35:53	0.52	
¹³ C ₁₂ -1,2,3,6,7,8-HxCDF	2.00	1.91	95.4	35:60	0.52	
¹³ C ₁₂ -2,3,4,6,7,8-HxCDF	2.00	1.87	93.6	36:28	0.53	
¹³ C ₁₂ -1,2,3,7,8,9-HxCDF	2.00	1.75	87.4	37:14	0.53	
¹³ C ₁₂ -1,2,3,4,6,7,8-HpCDF	2.00	1.70	84.8	38:42	0.45	
¹³ C ₁₂ -1,2,3,4,7,8,9-HpCDF	2.00	1.64	82.2	40:36	0.45	
<u>Cleanup Standards</u>						
³⁷ Cl ₄ -2,3,7,8-TCDD	0.400	0.363	90.8	31:10	-	
<u>Injection Standards</u>						
¹³ C ₁₂ -1,2,3,4-TCDD	2.00			30:37	0.78	
¹³ C ₁₂ -1,2,3,7,8,9-HxCDD	2.00			36:55	1.25	

Sample Information

Matrix:	0	
Weight / Volume:	10.00	Grams
Solids / Lipids:	100	%
Original pH :	NA	
Batch ID:	WG14123	

Laboratory Information

Sample ID: LMB14123

Filename: a22feb07a-4

Retchk: a22feb07a-1

Begin ConCal: a22feb07a-1

Extraction Date: 19-Feb-07

Analysis Date: 22-Feb-07 18:49

Initial Cal: ml613-071006e

Analyzed by: JWS

Date: 02-23-07

Reviewed by:

Date: 7/23/07

Analytical Results
for
Ongoing Precision Result (OPR)

Analyte	Spiked pg/ul	AMT pg/ul	REC %	Range pg/ul		Flag
				Lower	Upper	
2,3,7,8-TCDD	10.0	9.56	95.6	6.70	15.8	
1,2,3,7,8-PeCDD	50.0	48.6	97.2	35.0	71.0	
1,2,3,4,7,8-HxCDD	50.0	50.2	100	35.0	82.0	
1,2,3,6,7,8-HxCDD	50.0	51.1	102	38.0	67.0	
1,2,3,7,8,9-HxCDD	50.0	49.8	99.5	32.0	81.0	
1,2,3,4,6,7,8-HpCDD	50.0	49.2	98.5	35.0	70.0	
OCDD	100	96.6	96.6	78.0	144	
2,3,7,8-TCDF	10.0	9.16	91.6	7.50	15.8	
1,2,3,7,8-PeCDF	50.0	49.4	98.8	40.0	67.0	
2,3,4,7,8-PeCDF	50.0	49.5	98.9	34.0	80.0	
1,2,3,4,7,8-HxCDF	50.0	49.2	98.4	36.0	67.0	
1,2,3,6,7,8-HxCDF	50.0	49.8	99.7	42.0	65.0	
2,3,4,6,7,8-HxCDF	50.0	49.4	98.9	35.0	78.0	
1,2,3,7,8,9-HxCDF	50.0	49.2	98.5	39.0	65.0	
1,2,3,4,6,7,8-HpCDF	50.0	49.5	98.9	41.0	61.0	
1,2,3,4,7,8,9-HpCDF	50.0	48.1	96.1	39.0	69.0	
OCDF	100	103	103	63.0	170	

= Outside range limits

* = Ion Ratio Out

QC Information

OPR Lab ID: OPR14123
Extraction Date: 19-Feb-07
Analysis Date: 22-Feb-07
Method: 1613

File Information

OPR Filename : a22feb07a-2
Retchk: a22feb07a-1
Begin ConCal: a22feb07a-1

Initial Cal: m1613-071006e

Sample Information

Matrix: Soil

Analytical Results
for
Ongoing Precision Result (OPR)

Labeled Standard	Spiked pg/ul	AMT pg/ul	REC %	Range pg/ul		Flag
				Lower	Upper	
<u>Extraction Standards</u>						
¹³ C ₁₂ -2,3,7,8-TCDD	100	91.0	91.0	20.0	175	
¹³ C ₁₂ -1,2,3,7,8-PeCDD	100	86.8	86.8	21.0	227	
¹³ C ₁₂ -1,2,3,4,7,8-HxCDD	100	91.5	91.5	21.0	193	
¹³ C ₁₂ -1,2,3,6,7,8-HxCDD	100	89.1	89.1	25.0	163	
¹³ C ₁₂ -1,2,3,4,6,7,8-HpCDD	100	86.9	86.9	26.0	166	
¹³ C ₁₂ -OCDD	200	159	79.7	26.0	397	
¹³ C ₁₂ -2,3,7,8-TCDF	100	93.9	93.9	22.0	152	
¹³ C ₁₂ -1,2,3,7,8-PeCDF	100	90.9	90.9	21.0	192	
¹³ C ₁₂ -2,3,4,7,8-PeCDF	100	87.1	87.1	13.0	328	
¹³ C ₁₂ -1,2,3,4,7,8-HxCDF	100	89.7	89.7	19.0	202	
¹³ C ₁₂ -1,2,3,6,7,8-HxCDF	100	90.4	90.4	21.0	159	
¹³ C ₁₂ -2,3,4,6,7,8-HxCDF	100	93.1	93.1	22.0	176	
¹³ C ₁₂ -1,2,3,7,8,9-HxCDF	100	90.2	90.2	17.0	205	
¹³ C ₁₂ -1,2,3,4,6,7,8-HpCDF	100	88.1	88.1	21.0	158	
¹³ C ₁₂ -1,2,3,4,7,8,9-HpCDF	100	89.0	89.0	20.0	186	
<u>Cleanup Standards</u>						
³⁷ C ₁₄ -2,3,7,8-TCDD	20.0	18.8	93.8	6.20	38.2	

Form Version:[OPRv3.474]1613

QC Information

OPR Lab ID: OPR14123
Extraction Date: 19-Feb-07
Analysis Date: 22-Feb-07
Method: 1613

File Information

OPR Filename : a22feb07a-2
Retchk: a22feb07a-1
Begin ConCal: a22feb07a-1
Initial Cal: m1613-071006e

Sample Information

Matrix: Soil

Reviewed by: 

Date Reviewed: 2/22/07

SUBCONTRACT ORDER - PROJECT # IQB1505

G579-224

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: _____ Initials: _____

Analysis	Expiration	Comments
Sample ID: IQB1505-01 Soil 1613-Dioxin-HR OUT	Sampled: 02/13/07 14:30 ✓ 02/27/07 14:30	Sub=Paradigm, 17 cngnrs, dry wt(soil), 2 wkTAT, Jflag
Level 4 + EDD-OUT	03/13/07 14:30	Sub to Paradigm, TAT=2 weeks, EDD=Boeing, CD

Containers Supplied:

Brass Sleeve (IQB1505-01B)

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): 2.6°C

Released By

Date

Time

Received By

Date

Time

Released By

Date

Time

Received By

Date

Time



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 16:56

Received Date: 02/16/07 11:18

Turn Around: Normal

Work Order #: 7021613

Client Project: IQB1505

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 02/16/07 11:18 with the Chain of Custody document. The samples were received in good condition, at 3.2 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Reviewed by:

Taylor Malignat

Taylor Malignat

Project Manager



Page 1 of 6





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: 7021613
Project ID: IQB1505

Date Received: 02/16/07 11:18
Date Reported: 03/02/07 16:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IQB1505-01	client		7021613-01	Soil	02/13/07 14:30



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

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

Report ID: 7021613
Project ID: IQB1505

Date Received: 02/16/07 11:18
Date Reported: 03/02/07 16:56

QUALITY CONTROL SECTION



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: 7021613
Project ID: IQB1505

Date Received: 02/16/07 11:18
Date Reported: 03/02/07 16:56

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch W7B0833 - EPA 7471A										
Blank (W7B0833-BLK1)				Analyzed: 02/22/07						
Mercury, Total	0.000902	0.010	mg/kg wet							J
LCS (W7B0833-BS1)				Analyzed: 02/22/07						
Mercury, Total	0.0806	0.010	mg/kg wet	0.0833		96.8	80-120			
Matrix Spike (W7B0833-MS1)				Source: 7022010-03				Analyzed: 02/22/07		
Mercury, Total	2.20	0.44	mg/kg dry	0.0876	2.2	0.00	70-130			QM-02
Matrix Spike Dup (W7B0833-MSD1)				Source: 7022010-03				Analyzed: 02/22/07		
Mercury, Total	2.31	0.44	mg/kg dry	0.0905	2.2	122	70-130	4.88	25	QM-02



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Irvine CA, 92614

Report ID: 7021613
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Date Received: 02/16/07 11:18
Date Reported: 03/02/07 16:56

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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.

CHAIN OF CUSTODY RECORD

COC #: MWHSV20070213_01

Page: 1 of 1

Customer Information			Project Information			Project Information		
Site:	SSFL	Client Name:	DOE	Collector:	Shelby Valenzuela	Boeing PM:		
Company:	MWH	Sampling Event:	Group 8 Data Gaps-Soil	Contact #:				
Report to:	Lisa Tucker	Project Number:	1891264	Requested Analyses				
Address:	9444 Farnham Street	Project Manager:	Diana Buchanan	Legend: Numerical values for analyses equate to turn around time in days H - Hold EH - Extract Hold				
	Suite 300	PM Phone #:	(626) 568-6897					
	San Diego	Field Contact:						
	CA	Field Contact #:						
	92123	Lab Name:	Test America, Inc.					
Email:	boeingdms@ch2m.com	Lab Contact:	Michele Chamberlin	pH by SW9045C - Soil 10 Metals 7471A Soil Mercury 10 Metals 6010B/6020 Soil Group 8 10 Dioxin by 1613B - Soil 10 % Solids - Soil 10				
	Lisa.Tucker@mwhglobal.com	Lab Address:	17461 Derian Ave, Suite 100					
			Irvine, CA 92606					
		Lab Phone:	(949) 261-1022					
		Matrix	Soil					
Sample Name	BHBS0005S01	Date	2/13/2007	Time	14:30	Comments		

BT
2/15/07
1030

26

1. Relinquished by:	Date:	2/14/2007	2. Received by:	Date:	2/14/07	3. Relinquished by:	Date:	2/14/07	4. Received by:	Date:	2-14-07
Company:	MWH	Time:	1000	Company:	TAE	Company:	TAE	Company:	TAE	Time:	1945
Comments: ☐ Geotracker EDF ☒ Data Validation Package ☒ Level IV											

4948

LABORATORY REPORT

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

Project: SSFL Group N- DOE
1N91264

Sampled: 02/12/07
Received: 02/13/07
Issued: 03/08/07 16:07

ELAP f0110NCA California ELAP f1197 CSDLAC f10286

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(s) of Custody, 3 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 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: This is a complete final report. The EPA 8330 and EPA 7471 were added.

LABORATORY ID	CLIENT ID	MATRIX
IQB1219-01	BLBS0037S01	Soil
IQB1219-02	BLBS0037S02	Soil
IQB1219-03	BLBS003NS01	Soil
IQB1219-04	BLBS0036S01	Soil
IQB1219-08	BLBS0036S02	Soil
IQB1219-06	BLBS0031S01	Soil
IQB1219-07	BLBS0032D01	Soil
IQB1219-0N	BLBS0032S01	Soil

Reviewed By:



TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
1N91264
Report # umber: IQB1219

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

Sf ORT f OLD TIME DETAIL REPORT

	f old Time pin days(	DategTime Sam) led	DategTime Received	DategTime Extracted	DategTime Analyzed
Sam) le ID/ BLBS1122S15 p3 B5k59-15(- Soil EPA 9048C	1	02/12/2007 10:28	02/13/2007 13:18	02/13/2007 16:88	02/13/2007 17:48
Sam) le ID/ BLBS1122S1k p3 B5k59-1k(- Soil EPA 9048C	1	02/12/2007 10:38	02/13/2007 13:18	02/13/2007 16:88	02/13/2007 17:48
Sam) le ID/ BLBS112: S15 p3 B5k59-12(- Soil EPA 9048C	1	02/12/2007 10:80	02/13/2007 13:18	02/13/2007 16:88	02/13/2007 17:48
Sam) le ID/ BLBS1128S15 p3 B5k59-16(- Soil EPA 9048C	1	02/12/2007 11:20	02/13/2007 13:18	02/13/2007 16:88	02/13/2007 17:48
Sam) le ID/ BLBS1128S1k p3 B5k59-10(- Soil EPA 9048C	1	02/12/2007 11:38	02/13/2007 13:18	02/13/2007 16:88	02/13/2007 17:48
Sam) le ID/ BLBS1125S15 p3 B5k59-18(- Soil EPA 9048C	1	02/12/2007 13:38	02/13/2007 13:18	02/13/2007 16:88	02/13/2007 17:48
Sam) le ID/ BLBS112kD15 p3 B5k59-12(- Soil EPA 9048C	1	02/12/2007 14:08	02/13/2007 13:18	02/13/2007 16:88	02/13/2007 17:48
Sam) le ID/ BLBS112kS15 p3 B5k59-1: (- Soil EPA 9048C	1	02/12/2007 14:08	02/13/2007 13:18	02/13/2007 16:88	02/13/2007 17:48

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
1N91264
Report # umber: IQB1219

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

METHOD BLANKS DATA

EXTRACTABLE FUEL HYDROCARBONS PCADf Sg 150 Modified

Analyte	Result	Re) ortinU Limit	MDL	Qnits	S) i4e Level	Source Result	H REC Limits	RPD	RPD Limit	Data 3 ualifiers
Batch/ 2B5651k Extracted/ 1kg56g12										
Blank Analyzed/ 1kg58g112 p2B5651k-BLK5(										
EFH (CN- C30)	# D	8.0	3.8	mg/kg wet						
EFH (CN- C11)	# D	8.0	3.8	mg/kg wet						
EFH (C12 - C14)	# D	8.0	3.8	mg/kg wet						
EFH (C18 - C20)	# D	8.0	3.8	mg/kg wet						
EFH (C21 - C30)	# D	8.0	3.8	mg/kg wet						
Surrogate: n-Octacosane	6.55			mg/kg wet	6.67		98	40-125		
LCS Analyzed/ 1kg58g112 p2B5651k-BS5(										
EFH (CN- C30)	2N7	8.0	3.8	mg/kg wet	33.3	# D	96	40-118		
Surrogate: n-Octacosane	6.25			mg/kg wet	6.67		94	40-125		
Matrix S) i4e Analyzed/ 1kg58g112 p2B5651k-MS5(										
						Source/ I3 B1968-18				
EFH (CN- C30)	27.6	8.0	3.8	mg/kg wet	33.3	# D	98	40-120		
Surrogate: n-Octacosane	6.14			mg/kg wet	6.67		92	40-125		
Matrix S) i4e Du) Analyzed/ 1kg58g112 p2B5651k-MSD5(										
						Source/ I3 B1968-18				
EFH (CN- C30)	26.1	8.0	3.8	mg/kg wet	33.3	# D	7N	40-120	6	30
Surrogate: n-Octacosane	5.80			mg/kg wet	6.67		87	40-125		

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
1N91264
Report # umber: IQB1219

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

METHOD BLANK DATA

POLYCYCLOLORINATED BIPHENYLS EPA 206.0g 1: k

Analyte	Result	Re) ortinU Limit	MDL	Qnits	S) i4e Level	Source Result	H REC Limits	RPD	RPD Limit	Data 3 ualifiers
Batch/ 2B56192 Extracted/ 1kg56g12										
Blank Analyzed/ 1kg56g112 p2B56192-BLK5(										
Aroclor 1016	# D	80	18	ug/kg wet						
Aroclor 1221	# D	80	18	ug/kg wet						
Aroclor 1232	# D	80	10	ug/kg wet						
Aroclor 1242	# D	80	10	ug/kg wet						
Aroclor 124N	# D	80	10	ug/kg wet						
Aroclor 1284	# D	80	10	ug/kg wet						
Aroclor 1260	# D	80	10	ug/kg wet						
Surrogate: Decachlorobiphenyl	29.0			ug/kg wet	33.3		87	45-120		
LCS Analyzed/ 1kg56g112 p2B56192-BSK(										
Aroclor 1016	241	80	18	ug/kg wet	267		90	60-118		
Aroclor 1260	261	80	10	ug/kg wet	267		9N	60-118		
Surrogate: Decachlorobiphenyl	31.7			ug/kg wet	33.3		95	45-120		
Matrix S) i4e Analyzed/ 1kg50g112 p2B56192-MSK(										
Source/ I3 B5k58-18										
Aroclor 1016	2N0	86	17	ug/kg dry	300	# D	93	48-120		
Aroclor 1260	296	86	11	ug/kg dry	300	# D	99	48-120		
Surrogate: Decachlorobiphenyl	37.6			ug/kg dry	37.5		100	45-120		
Matrix S) i4e Du) Analyzed/ 1kg50g112 p2B56192-MSDK(										
Source/ I3 B5k58-18										
Aroclor 1016	2N1	86	17	ug/kg dry	300	# D	94	48-120	0	30
Aroclor 1260	290	86	11	ug/kg dry	300	# D	97	48-120	2	30
Surrogate: Decachlorobiphenyl	35.9			ug/kg dry	37.5		96	45-120		

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
1N91264
Report # umber: IQB1219

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

METALS

METALS

Analyte	Result	Re) ortinU Limit	MDL	Qnits	S) i4e Level	Source Result	H REC Limits	RPD	RPD Limit	Data 3 uali7ers
Batch/ 2B5651: Extracted/ 1kg56g12										
Blan4 Analyzed/ 1kg50g112 p2B5651: -BLK5(										
Antimony	# D	1.0	0.030	mg/kg wet						
Arsenic	# D	0.80	0.28	mg/kg wet						
Barium	# D	0.80	0.0N0	mg/kg wet						
Beryllium	# D	0.30	0.040	mg/kg wet						
Cadmium	# D	0.80	0.028	mg/kg wet						
Chromium	0.3N4	1.0	0.38	mg/kg wet						J
Cobalt	# D	0.80	0.0N0	mg/kg wet						
Copper	# D	1.0	0.20	mg/kg wet						
Lead	# D	0.80	0.080	mg/kg wet						
Molybdenum	# D	1.0	0.10	mg/kg wet						
# ickel	# D	1.0	0.48	mg/kg wet						
Selenium	# D	1.0	0.20	mg/kg wet						
Silver	# D	0.80	0.080	mg/kg wet						
Thallium	# D	0.80	0.10	mg/kg wet						
Vanadium	# D	1.0	0.40	mg/kg wet						
Zinc	8.N6	10	1.3	mg/kg wet						J
LCS Analyzed/ 1kg50g112 p2B5651: -BS5(										
Antimony	4N3	1.0	0.030	mg/kg wet	80.0		97	N0-120		
Arsenic	44.6	0.80	0.28	mg/kg wet	80.0		N9	N0-120		
Barium	47.2	0.80	0.0N0	mg/kg wet	80.0		94	N0-120		
Beryllium	82.2	0.30	0.040	mg/kg wet	80.0		104	N0-120		
Cadmium	46.8	0.80	0.028	mg/kg wet	80.0		93	N0-120		
Chromium	47.2	1.0	0.38	mg/kg wet	80.0		94	N0-120		
Cobalt	47.2	0.80	0.0N0	mg/kg wet	80.0		94	N0-120		
Copper	47.8	1.0	0.20	mg/kg wet	80.0		98	N0-120		
Lead	44.6	0.80	0.080	mg/kg wet	80.0		N9	N0-120		
Molybdenum	47.0	1.0	0.10	mg/kg wet	80.0		94	N0-120		
# ickel	47.3	1.0	0.48	mg/kg wet	80.0		98	N0-120		
Selenium	41.7	1.0	0.20	mg/kg wet	80.0		N8	N0-120		
Silver	29.3	0.80	0.080	mg/kg wet	28.0		117	N0-120		
Thallium	43.7	0.80	0.10	mg/kg wet	80.0		N7	N0-120		
Vanadium	48.N	1.0	0.40	mg/kg wet	80.0		92	N0-120		
Zinc	41.2	10	1.3	mg/kg wet	80.0		N2	N0-120		

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
IN01264
Report # umber: IQB1219

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

METAL OD BLANK DATA

METALS

Analyte	Result	Re) ortinU Limit	MDL	Qnits	S) i4e Level	Source Result	H REC Limits	RPD	RPD Limit	Data 3 uali7ers
Batch/ 2B5651: Extracted/ 1kg56g12										
Matrix S) i4e Analyzed/ 1kg50g112 p2B5651: -MSD5(					Source/ I3 B5k58-18					
Antimony	14.9	1.1	0.034	mg/kg dry	86.3	0.13	26	78-128		M2
Arsenic	48.9	0.86	0.2N	mg/kg dry	86.3	3.6	78	78-128		
Barium	128	0.86	0.090	mg/kg dry	86.3	76	N7	78-128		
Beryllium	46.9	0.34	0.048	mg/kg dry	86.3	0.81	N2	78-128		
Cadmium	43.4	0.86	0.02N	mg/kg dry	86.3	0.16	77	78-128		
Chromium	60.4	1.1	0.39	mg/kg dry	86.3	14	N2	78-128		
Cobalt	4N6	0.86	0.090	mg/kg dry	86.3	8.1	77	78-128		
Copper	47.3	1.1	0.23	mg/kg dry	86.3	9.2	6N	78-128		M2
Lead	83.8	0.86	0.086	mg/kg dry	86.3	6.6	N8	78-128		
Molybdenum	43.6	1.1	0.11	mg/kg dry	86.3	0.82	77	78-128		
# ickel	81.7	1.1	0.81	mg/kg dry	86.3	9.2	78	78-128		
Selenium	40.3	1.1	0.23	mg/kg dry	86.3	0.27	71	78-128		M2
Silver	27.0	0.86	0.086	mg/kg dry	2N2	0.09N	98	78-128		
Thallium	47.4	0.86	0.11	mg/kg dry	86.3	0.30	N4	78-128		
Vanadium	78.6	1.1	0.48	mg/kg dry	86.3	28	90	78-128		
Zinc	77.7	11	1.8	mg/kg dry	86.3	42	63	78-128		M2
Matrix S) i4e Du) Analyzed/ 1kg50g112 p2B5651: -MSD5(					Source/ I3 B5k58-18					
Antimony	18.8	1.1	0.034	mg/kg dry	86.3	0.13	27	78-128	4	20
Arsenic	46.0	0.86	0.2N	mg/kg dry	86.3	3.6	78	78-128	0	20
Barium	126	0.86	0.090	mg/kg dry	86.3	76	N9	78-128	1	20
Beryllium	48.3	0.34	0.048	mg/kg dry	86.3	0.81	N0	78-128	3	20
Cadmium	43.N	0.86	0.02N	mg/kg dry	86.3	0.16	7N	78-128	1	20
Chromium	8N8	1.1	0.39	mg/kg dry	86.3	14	79	78-128	3	20
Cobalt	4N1	0.86	0.090	mg/kg dry	86.3	8.1	76	78-128	1	20
Copper	46.7	1.1	0.23	mg/kg dry	86.3	9.2	67	78-128	1	20
Lead	84.2	0.86	0.086	mg/kg dry	86.3	6.6	N8	78-128	1	20
Molybdenum	44.0	1.1	0.11	mg/kg dry	86.3	0.82	77	78-128	1	20
# ickel	80.9	1.1	0.81	mg/kg dry	86.3	9.2	74	78-128	2	20
Selenium	39.7	1.1	0.23	mg/kg dry	86.3	0.27	70	78-128	1	20
Silver	26.N	0.86	0.086	mg/kg dry	2N2	0.09N	98	78-128	1	20
Thallium	4N3	0.86	0.11	mg/kg dry	86.3	0.30	N8	78-128	2	20
Vanadium	74.1	1.1	0.48	mg/kg dry	86.3	28	N7	78-128	2	20
Zinc	78.7	11	1.8	mg/kg dry	86.3	42	60	78-128	3	20

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
1N91264
Report # umber: IQB1219

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

METALS

METALS

Analyte	Result	Re) ortinU Limit	MDL	Qnits	S) i4e Level	Source Result	H REC	H REC Limits	RPD	RPD Limit	Data 3 uali7ers
<u>Batch/ 2B56551 Extracted/ 1kg56g12</u>											
Blan4 Analyzed/ 1kg50g112 p2B56551-BLK5(											
Aluminum	# D	10	8.0	mg/kg wet							
Boron	# D	8.0	1.0	mg/kg wet							
Lithium	# D	6.3	3.N	mg/kg wet							
Potassium	24.7	80	19	mg/kg wet							J
Sodium	# D	80	24	mg/kg wet							
LCS Analyzed/ 1kg50g112 p2B56551-BS5(											
Aluminum	47.6	10	8.0	mg/kg wet	80.0		98	N0-120			
Boron	4NN	8.0	1.0	mg/kg wet	80.0		9N	N0-120			
Lithium	80.1	6.3	3.N	mg/kg wet	80.0		100	N0-120			
Potassium	803	80	19	mg/kg wet	800		101	N0-120			
Sodium	4N0	80	24	mg/kg wet	800		96	N0-120			
Matrix S) i4e Analyzed/ 1kg50g112 p2B56551-MS5(											
Source/ I3 B5k58-18											
Aluminum	16400	11	8.6	mg/kg dry	86.3	14000	4263	78-128			MHA
Boron	87.4	8.6	1.1	mg/kg dry	86.3	2.9	97	78-128			
Lithium	79.2	7.1	4.3	mg/kg dry	86.3	28	96	78-128			
Potassium	4410	86	21	mg/kg dry	863	3700	126	78-128			MHA
Sodium	614	86	27	mg/kg dry	863	8N	99	78-128			
Matrix S) i4e Du) Analyzed/ 1kg50g112 p2B56551-MSD5(											
Source/ I3 B5k58-18											
Aluminum	16400	11	8.6	mg/kg dry	86.3	14000	4263	78-128	0	20	MHA
Boron	8N4	8.6	1.1	mg/kg dry	86.3	2.9	99	78-128	2	20	
Lithium	79.7	7.1	4.3	mg/kg dry	86.3	28	97	78-128	1	20	
Potassium	4340	86	21	mg/kg dry	863	3700	114	78-128	2	20	MHA
Sodium	616	86	27	mg/kg dry	863	8N	99	78-128	0	20	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
1N91264
Report # umber: IQB1219

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

METALS

METALS

Analyte	Result	Re) ortinU Limit	MDL	Qnits	S) i4e Level	Source Result	H REC Limits	RPD	RPD Limit	Data 3 uali7ers
Batch/ 2B58559 Extracted/ 1kg58g12										
Blan4 Analyzed/ 1kg58g112 p2B58559-BLK5(										
Zirconium	# D	28	1.8	mg/kg wet						
LCS Analyzed/ 1kg58g112 p2B58559-BS5(										
Zirconium	47.N	28	1.8	mg/kg wet	80.0		96	N0-120		
Matrix S) i4e Analyzed/ 1kg58g112 p2B58559-MS5(										
Zirconium	29.9	2N	1.7	mg/kg dry	86.3	1.7	80	78-128		M2
Matrix S) i4e Du) Analyzed/ 1kg58g112 p2B58559-MSD5(										
Zirconium	29.1	2N	1.7	mg/kg dry	86.3	1.7	49	78-128	3	20
Batch/ 2Bkk550 Extracted/ 1kgkk12										
Blan4 Analyzed/ 1kg2g112 p2Bkk550-BLK5(										
Aluminum	# D	10	8.0	mg/kg wet						
Boron	# D	8.0	1.0	mg/kg wet						
Lithium	# D	6.3	3.N	mg/kg wet						
Potassium	# D	80	19	mg/kg wet						
Sodium	# D	80	24	mg/kg wet						
Zirconium	# D	28	1.8	mg/kg wet						
LCS Analyzed/ 1kg2g112 p2Bkk550-BS5(										
Aluminum	48.3	10	8.0	mg/kg wet	80.0		91	N0-120		
Boron	47.3	8.0	1.0	mg/kg wet	80.0		98	N0-120		
Lithium	4N4	6.3	3.N	mg/kg wet	80.0		97	N0-120		
Potassium	816	80	19	mg/kg wet	800		103	N0-120		
Sodium	496	80	24	mg/kg wet	800		99	N0-120		
Zirconium	82.4	28	1.8	mg/kg wet	80.0		108	N0-120		

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
1N91264
Report # umber: IQB1219

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

METALS

METALS

Analyte	Result	Re) ortinU Limit	MDL	Qnits	S) i4e Level	Source Result	H REC Limits	RPD	RPD Limit	Data 3 uali7ers
Batch/ 2Bkk550 Extracted/ 1kgkg12										
Matrix S) i4e Analyzed/ 1kgkg112 p2Bkk550-MS5(					Source/ I3 Bk219-1k					
Aluminum	17000	11	8.4	mg/kg dry	83.6	14000	8897	78-128		MHA
Boron	48.6	8.4	1.1	mg/kg dry	83.6	1.1	N8	78-128		
Lithium	64.1	6.N	4.1	mg/kg dry	83.6	17	NN	78-128		
Potassium	3380	84	20	mg/kg dry	836	2900	N4	78-128		
Sodium	606	84	26	mg/kg dry	836	N4	97	78-128		
Zirconium	42.9	27	1.6	mg/kg dry	83.6	2.6	78	78-128		
Matrix S) i4e Du) Analyzed/ 1kgkg112 p2Bkk550-MSD5(					Source/ I3 Bk219-1k					
Aluminum	17600	11	8.4	mg/kg dry	83.6	14000	6716	78-128	3	20
Boron	46.1	8.4	1.1	mg/kg dry	83.6	1.1	N4	78-128	1	20
Lithium	64.N	6.N	4.1	mg/kg dry	83.6	17	N9	78-128	1	20
Potassium	3480	84	20	mg/kg dry	836	2900	103	78-128	3	20
Sodium	601	84	26	mg/kg dry	836	N4	96	78-128	1	20
Zirconium	41.8	27	1.6	mg/kg dry	83.6	2.6	73	78-128	3	20

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
1N91264
Report # umber: IQB1219

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

METf OD BLANKg C DATA

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Analyte	Result	Re) ortinU Limit	MDL	Qnits	S) i4e Level	Source Result	H REC Limits	RPD	RPD Limit	Data 3 uali7ers
<u>Batch/ 2B52528 Extracted/ 1kg52g12</u>										
Du) licate Analyzed/ 1kg52g112 p2B52528-DQP5(						Source/ I3 B5k58-15				
pH	7.48	# A	0.00	pH Units		7.43		0	8	
Du) licate Analyzed/ 1kg52g112 p2B52528-DQPk(						Source/ I3 B5k58-18				
pH	6.94	# A	0.00	pH Units		6.94		0	8	
<u>Batch/ 2B505k2 Extracted/ 1kg50g12</u>										
Blan4 Analyzed/ 1kg58g112 p2B505k2-BLK5(										
Percent Solids	# D	0.10	0.10	%						
Du) licate Analyzed/ 1kg58g112 p2B505k2-DQP5(						Source/ I3 B5k58-18				
Percent Solids	NN7	0.10	0.10	%		N9		0	20	

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
1N91264
Report # umber: IQB1219

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

DATA 3 QALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
Mk	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
Mf A	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
RL5	Reporting limit raised due to sample matrix effects.
ND	Analyte # NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

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

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

TestAmerica - Irvine, CA
Michele Chamberlin
Project Manager

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

Project ID: SSFL Group N- DOE
IN01264
Report # umber: IQB1219

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

Certification Summary

TestAmerica - Irvine, CA

Method	Matrix	Nelac	California
EPA 160.3 MOD	Soil	# /A	# /A
EPA 3848/N0N1A	Soil	X	X
EPA 3848/N0N2	Soil	X	X
EPA 6010B	Soil	X	X
EPA 6020	Soil	X	X
EPA N018B	Soil	X	X
EPA N0N2	Soil	X	X
EPA 9048C	Soil	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-SQB California Cert #1230

7440 Lincoln Way - Garden Grove, CA 92641

Analysis Performed: N270C (SIM)
Samples: IQB1219-01, IQB1219-03, IQB1219-04, IQB1219-06
Analysis Performed: Dry Wt
Samples: IQB1219-01, IQB1219-03, IQB1219-04, IQB1219-06

STL- Denver

4988 Yarrow Street - Arvada, CO 80002

Analysis Performed: N330-# nitroaromatics
Samples: IQB1219-07, IQB1219-08

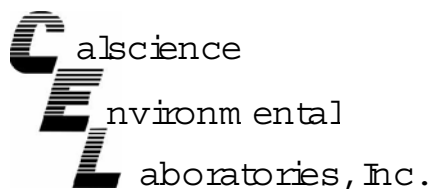
Wec4 Laboratories, Inc

1489 E. Clark Avenue - City of Industry, CA 91748

Analysis Performed: Mercury-7471 (dry wt)
Samples: IQB1219-01, IQB1219-03, IQB1219-04, IQB1219-07, IQB1219-08

TestAmerica - Irvine, CA

Michele Chamberlin
Project Manager



February 26, 2007

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

Subject: CalScience Work Order No.: 07-02-0875
Client Reference: QB1219

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 2/14/2007 and analyzed in accordance with the attached chain-of-custody.

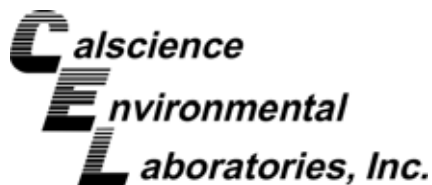
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows 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,

A handwritten signature in black ink, which appears to read 'Steven L. Lane', is enclosed within an oval-shaped hand-drawn border.

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



Case Narrative for 07-02-0875

Sample Condition on Receipt

Eight soil samples were received as part of this Work Order on February 14, 2007. The sample was transferred to the laboratory in an ice-chest following strict chain-of-custody procedures. The temperature (3.0°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 its 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.

A handwritten signature in black ink, appearing to be "M. J. ...", located at the bottom left of the page.

Case Narrative for 07-02-0875

Table A : Matrix Spike /Matrix Spike Duplicate outside acceptable limits	
EPA Method 8270C SIM	
Batch #	Analytes(s)
070215S09	2,4,6-Trichlorophenol, 2,4-Dichlorophenol, 2-Methylphenol, 2-Nitrophenol, 4-Chloro-3-Methylphenol, Acenaphthene [†] , Di-n-ButylPhthalate, DiethylPhthalate, Fluorene, N-Nitrosodimethylaniline [†] , Phenanthrene & Phenol

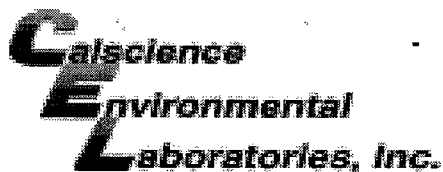
[†]: As a direct result of the unacceptable recoveries for the MS and/or MSD, the relative percent difference was also outside acceptable limits. These recoveries have also been flagged with a "4" qualifier.

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.



WORK ORDER #: 07 - 0 2 - 0 8 7 5

Cooler 1 of 1

SAMPLE RECEIPT FORM

 CLIENT: TEST AMERICA

 DATE: 2-14-07
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.
☒ 3.0 °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 - Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614

Fax

07-02-0875

To: CalScience/Virendra From: MC

Fax: 714-894-7501 Fax: 949-260-3297

Phone: - Phone: 949-261-1022

Date: 2/15/07 Pages: 13

Subject: Revised COC

Remarks: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

Hr Virendra -

Added the dry weight

request.

Michele



TestAmerica

ANALYTICAL TESTING CORPORATION

07-02-0875

SUBCONTRACT ORDER - PROJECT # IQB1219

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: _____ Initials: _____

Analysis	Expiration	Comments
Sample ID: IQB1219-01 Soil 8270C (SIM)-OUT	Sampled: 02/12/07 10:25 02/26/07 10:25	NDMA+PAHS+phthalates(1 run).Sub=Calsci,calc w/ sx wt
* Dry Wt-OUT	03/12/07 10:25	% solids, sub to Calscience, \$10/sample
Level 3 Data Package - Out	03/12/07 10:25	Sub to Calscience, TA Lvl IV, EDD=Boeing
Containers Supplied: 2 oz jar (IQB1219-01D)		
Sample ID: IQB1219-02 Soil Extract/Hold-8270C-SIM-OUT	Sampled: 02/12/07 10:35 02/26/07 10:35	Sub to Calscience
Containers Supplied: 2 oz jar (IQB1219-02C)		
Sample ID: IQB1219-03 Soil 8270C (SIM)-OUT	Sampled: 02/12/07 10:50 02/26/07 10:50	NDMA+PAHS+phthalates(1 run).Sub=Calsci,calc w/ sx wt
* Dry Wt-OUT	03/12/07 10:50	% solids, sub to Calscience, \$10/sample
Level 3 Data Package - Out	03/12/07 10:50	Sub to Calscience, TA Lvl IV, EDD=Boeing
Containers Supplied: 2 oz jar (IQB1219-03D)		
Sample ID: IQB1219-04 Soil 8270C (SIM)-OUT	Sampled: 02/12/07 11:20 02/26/07 11:20	NDMA+PAHS+phthalates(1 run).Sub=Calsci,calc w/ sx wt
* Dry Wt-OUT	03/12/07 11:20	% solids, sub to Calscience, \$10/sample
Level 3 Data Package - Out	03/12/07 11:20	Sub to Calscience, TA Lvl IV, EDD=Boeing
Containers Supplied: 2 oz jar (IQB1219-04D)		

* Added 2/15/07
nc

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

TestAmerica

ANALYTICAL TESTING CORPORATION

07-02-0875

SUBCONTRACT ORDER - PROJECT # IQB1219

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: _____ Initials: _____

Analysis	Expiration	Comments
Sample ID: IQB1219-05 Soil Extract/Hold-8270C-SIM-OUT 02/26/07 11:35	Sampled: 02/12/07 11:35	Sub to Calscience
Containers Supplied: 2 oz jar (IQB1219-05C)		
Sample ID: IQB1219-06 Soil 8270C (SIM)-OUT	Sampled: 02/12/07 13:35 02/26/07 13:35	NDMA+PAHS+phthlates(1 run).Sub=Calsci,calc w/ sx wt
* Dry Wt-OUT	03/12/07 13:35	% solids, sub to Calscience, \$10/sample
* Level 3 Data Package - Our	03/12/07 13:35	Sub to Calscience, TA Lvl IV, EDD=Boeing
Containers Supplied: 2 oz jar (IQB1219-06C)		
Sample ID: IQB1219-07 Soil Extract/Hold-8270C-SIM-OUT 02/26/07 14:05	Sampled: 02/12/07 14:05	Sub to Calscience
Containers Supplied: 2 oz jar (IQB1219-07D)		
Sample ID: IQB1219-08 Soil Extract/Hold-8270C-SIM-OUT 02/26/07 14:05	Sampled: 02/12/07 14:05	Sub to Calscience
Containers Supplied: 2 oz jar (IQB1219-08D)		

* Added 7/15/07 me

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 _____

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

0875

SUBCONTRACT ORDER - PROJECT # IQB1219

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: _____ **Initials:** _____

Analysis	Expiration	Comments
Sample ID: IQB1219-01 Soil	Sampled: 02/12/07 10:25	
8270C (SIM)-OUT	02/26/07 10:25	NDMA+PAHS+phthltes(1 run).Sub=Calsci,calc w/ sx wt
Level 3 Data Package - Out	03/12/07 10:25	Sub to Calscience,TA Lvl IV,EDD=Boeing

Containers Supplied:
2 oz jar (IQB1219-01D)

Sample ID: IQB1219-02 Soil	Sampled: 02/12/07 10:35	
Extract/Hold-8270C-SIM-OUT	02/26/07 10:35	Sub to Calscience

Containers Supplied:
2 oz jar (IQB1219-02C)

Sample ID: IQB1219-03 Soil	Sampled: 02/12/07 10:50	
8270C (SIM)-OUT	02/26/07 10:50	NDMA+PAHS+phthltes(1 run).Sub=Calsci,calc w/ sx wt
Level 3 Data Package - Out	03/12/07 10:50	Sub to Calscience,TA Lvl IV,EDD=Boeing

Containers Supplied:
2 oz jar (IQB1219-03D)

Sample ID: IQB1219-04 Soil	Sampled: 02/12/07 11:20	
8270C (SIM)-OUT	02/26/07 11:20	NDMA+PAHS+phthltes(1 run).Sub=Calsci,calc w/ sx wt
Level 3 Data Package - Out	03/12/07 11:20	Sub to Calscience,TA Lvl IV,EDD=Boeing

Containers Supplied:
2 oz jar (IQB1219-04D)

Sample ID: IQB1219-05 Soil	Sampled: 02/12/07 11:35	
Extract/Hold-8270C-SIM-OUT	02/26/07 11:35	Sub to Calscience

Containers Supplied:
2 oz jar (IQB1219-05C)

Released By	Date	Time	Received By	Date	Time
<i>Eduard R.</i>	02/14/07	0700	<i>Enrico Acun</i>	02/14/07	0700
Released By	Date	Time	Received By	Date	Time
<i>Enrico Acun</i>	02/14/07	0831	<i>Webster</i>	2-14-07	0831

0875

SUBCONTRACT ORDER - PROJECT # IQB1219

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: _____ **Initials:** _____

Analysis	Expiration	Comments
Sample ID: IQB1219-06 Soil	Sampled: 02/12/07 13:35	
8270C (SIM)-OUT	02/26/07 13:35	NDMA+PAHS+phthltes(1 run).Sub=Calsci,calc w/ sx wt
Level 3 Data Package - Out	03/12/07 13:35	Sub to Calscience,TA Lvl IV,EDD=Boeing

Containers Supplied:

2 oz jar (IQB1219-06C)

Sample ID: IQB1219-07 Soil	Sampled: 02/12/07 14:05	
Extract/Hold-8270C-SIM-OUT	02/26/07 14:05	Sub to Calscience

Containers Supplied:

2 oz jar (IQB1219-07D)

Sample ID: IQB1219-08 Soil	Sampled: 02/12/07 14:05	
Extract/Hold-8270C-SIM-OUT	02/26/07 14:05	Sub to Calscience

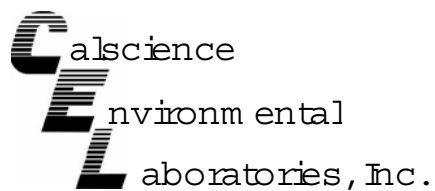
Containers Supplied:

2 oz jar (IQB1219-08D)

SAMPLE INTEGRITY:

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

Released By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	02/14/07	0700	<i>[Signature]</i>	02/14/07	0700
Released By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	02/14/07	0831	<i>[Signature]</i>	2/14/07	0831



Quality Control-Duplicate



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

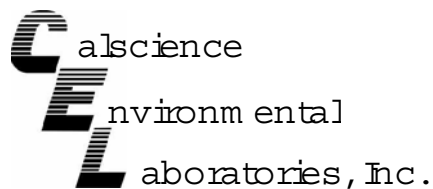
Date Received: 02/14/07
Work Order No: 07-02-0875
Preparation: N/A
Method: EPA 160.3

Project: QB1219

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
QB1219-08	Solid	N/A	N/A	02/19/07	70219TSD1

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Solids, Total	90.1	89.4	1	0-25	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



TestAmerica
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Irvine, CA 92614-5845

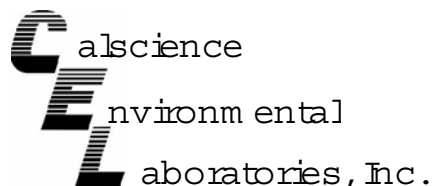
Date Received: 02/14/07
Work Order No: 07-02-0875
Preparation: EPA 3545
Method: EPA 8270C SM

Project QB1219

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
07-02-0546-4	Solid	GC/MS N	02/15/07	02/22/07	070215S09

Parameter	MS % REC	MSD % REC	% REC CL	RPD	RPD CL	Qualifiers
2,4,6-Trichlorophenol	24	27	40-160	10	0-20	3
2,4-Dichlorophenol	22	26	40-160	15	0-20	3
2-Methylphenol	29	33	40-160	14	0-20	3
2-Nitrophenol	22	28	40-160	24	0-20	3,4
4-Chloro-3-Methylphenol	30	33	40-160	9	0-20	3
Acenaphthene	26	34	40-106	22	0-20	3,4
Benzo (a) Pyrene	34	37	17-163	6	0-20	
Chrysene	32	33	17-168	1	0-20	
Di-n-ButylPhthalate	30	34	40-160	13	0-20	3
DiethylPhthalate	29	32	40-160	11	0-20	3
Fluoranthene	40	33	26-137	10	0-20	
Fluorene	27	32	59-121	15	0-20	3
N-Nitrosodimethylamine	26	35	40-160	27	0-20	3,4
Naphthalene	26	33	21-133	19	0-20	
Phenanthrene	28	32	54-120	10	0-20	3
Phenol	27	30	40-160	13	0-20	3
Pyrene	49	34	6-156	18	0-46	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

Date Received: N/A
Work Order No: 07-02-0875
Preparation: EPA 3545
Method: EPA 8270C SM

Project: QB1219

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-413-25	Solid	GC/MS N	02/15/07	02/20/07	070215L09

Parameter	LCS % REC	LCSD % REC	% REC CL	RPD	RPD CL	Qualifiers
2,4,6-Trichlorophenol	92	90	40-160	3	0-20	
2,4-Dichlorophenol	90	87	40-160	4	0-20	
2-Methylphenol	117	116	40-160	1	0-20	
2-Nitrophenol	90	109	40-160	19	0-20	
4-Chloro-3-Methylphenol	100	98	40-160	3	0-20	
Acenaphthene	79	77	48-108	2	0-11	
Benzo (a) Pyrene	103	102	17-163	1	0-20	
Chrysene	94	96	17-168	2	0-20	
Di-n-ButylPhthalate	107	101	40-160	6	0-20	
DiethylPhthalate	102	99	40-160	3	0-20	
Fluoranthene	101	99	26-137	2	0-20	
Fluorene	94	92	59-121	2	0-20	
N-Nitrosodimethylaniline	53	57	40-160	7	0-20	
Naphthalene	73	71	21-133	2	0-20	
Phenanthrene	95	94	54-120	1	0-20	
Phenol	53	52	40-160	2	0-20	
Pyrene	106	103	28-106	3	0-16	

RPD - Relative Percent Difference, CL - Control Limit

Work Order Number: 07-02-0875

<u>Qualifier</u>	<u>Definition</u>
*	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	Non-target 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.



STL

STL Denver

4955 Yarrow Street
Arvada, CO 80002

Tel: 303 736 0100 Fax: 303 431 7171
www.stl-inc.com

ANALYTICAL REPORT

Project: IQB1219

STL Denver Lot #: D7B150320

Michele Chamberlin

TestAmerica, Inc.
17461 Derian Avenue
Suite100
Irvine, CA 92614

A handwritten signature in black ink, appearing to read "Pat J. McEntee", followed by a long horizontal line.

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**
- **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 NELAP. 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.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Quality Control Summary for Lot D7B150320

Sample Receiving

STL Denver received two soil samples under chain of custody on February 15, 2007.

The cooler temperature at receipt was acceptable at 3.6°C.

The sample containers were received intact.

Holding Times

All analyses were performed within prescribed holding times.

Method SW846 8330, Explosives by HPLC

Soil samples are air dried, ground, and sieved in the laboratory prior to extraction. Per Method 8330 requirements, the results are reported on a dry weight basis since samples are air dried prior to taking the sample aliquots.

Laboratory generated MS/MSD analysis data have been provided. The MS/MSD exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No other anomalies were observed.

EXECUTIVE SUMMARY - Detection Highlights

D7B150320

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
NO DETECTABLE PARAMETERS				

METHODS SUMMARY

D7B150320

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Nitroaromatics and Nitramines by HPLC	SW846 8330	SW846 8330

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

METHOD / ANALYST SUMMARY

D7B150320

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
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

D7B150320

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JPHN8	001	IQB1219-07	02/12/07	14:05
JPHPC	002	IQB1219-08	02/12/07	14:05

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

D7B150320

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 8330		7051331	7051181
002	SOLID	SW846 8330		7051331	7051181

METHOD BLANK REPORT

HPLC

Client Lot #....: D7B150320
MB Lot-Sample #: D7B200000-331

Work Order #....: JPP3F1AA

Matrix.....: SOLID

Analysis Date...: 02/22/07
Dilution Factor: 1

Prep Date.....: 02/20/07

Analysis Time...: 22:19

Prep Batch #....: 7051331

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
1,3-Dinitrobenzene	ND	0.25	mg/kg	SW846 8330
2,4-Dinitrotoluene	ND	0.25	mg/kg	SW846 8330
2,6-Dinitrotoluene	ND	0.25	mg/kg	SW846 8330
Nitrobenzene	ND	0.25	mg/kg	SW846 8330
1,3,5-Trinitrobenzene	ND	0.25	mg/kg	SW846 8330
2,4,6-Trinitrotoluene	ND	0.25	mg/kg	SW846 8330
HMX	ND	0.25	mg/kg	SW846 8330
RDX	ND	0.25	mg/kg	SW846 8330
Tetryl	ND	0.50	mg/kg	SW846 8330
2-Nitrotoluene	ND	0.25	mg/kg	SW846 8330
3-Nitrotoluene	ND	0.25	mg/kg	SW846 8330
4-Nitrotoluene	ND	0.40	mg/kg	SW846 8330
4-Amino-2,6-dinitrotoluene	ND	0.25	mg/kg	SW846 8330
2-Amino-4,6-dinitrotoluene	ND	0.25	mg/kg	SW846 8330
PETN	ND	4.0	mg/kg	SW846 8330
Nitroglycerin	ND	5.0	mg/kg	SW846 8330
2,4-diamino-6-nitrotoluen	ND	1.0	mg/kg	SW846 8330
2,6-diamino-4-nitrotoluen	ND	1.0	mg/kg	SW846 8330

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dinitrobenzene	100	(83 - 122)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC

Client Lot #....: D7B150320 Work Order #....: JPP3F1AC Matrix.....: SOLID
 LCS Lot-Sample#: D7B200000-331
 Prep Date.....: 02/20/07 Analysis Date...: 02/22/07
 Prep Batch #....: 7051331 Analysis Time...: 22:55
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,3-Dinitrobenzene	104	(80 - 124)	SW846 8330
1,3,5-Trinitrobenzene	104	(75 - 129)	SW846 8330
2-Amino-4,6-dinitrotoluene	107	(66 - 137)	SW846 8330
2-Nitrotoluene	103	(77 - 125)	SW846 8330
2,4-Dinitrotoluene	101	(80 - 124)	SW846 8330
2,4,6-Trinitrotoluene	101	(72 - 130)	SW846 8330
2,6-Dinitrotoluene	100	(78 - 127)	SW846 8330
3-Nitrotoluene	104	(75 - 127)	SW846 8330
4-Amino-2,6-dinitrotoluene	93	(74 - 132)	SW846 8330
4-Nitrotoluene	102	(71 - 136)	SW846 8330
HMX	98	(70 - 129)	SW846 8330
Nitrobenzene	104	(80 - 121)	SW846 8330
RDX	98	(75 - 128)	SW846 8330
Tetryl	102	(28 - 160)	SW846 8330
Nitroglycerin	103	(68 - 131)	SW846 8330
PETN	99	(69 - 132)	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	102	(83 - 122)

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 #....: D7B150320 Work Order #....: JPP3F1AC Matrix.....: SOLID
 LCS Lot-Sample#: D7B200000-331
 Prep Date.....: 02/20/07 Analysis Date...: 02/22/07
 Prep Batch #....: 7051331 Analysis Time...: 22:55
 Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
1,3-Dinitrobenzene	2.12	2.20	mg/kg	104	SW846 8330
1,3,5-Trinitrobenzene	2.12	2.21	mg/kg	104	SW846 8330
2-Amino-4,6-dinitrotoluene	2.12	2.27	mg/kg	107	SW846 8330
2-Nitrotoluene	2.12	2.19	mg/kg	103	SW846 8330
2,4-Dinitrotoluene	2.12	2.14	mg/kg	101	SW846 8330
2,4,6-Trinitrotoluene	2.12	2.13	mg/kg	101	SW846 8330
2,6-Dinitrotoluene	2.12	2.11	mg/kg	100	SW846 8330
3-Nitrotoluene	2.12	2.20	mg/kg	104	SW846 8330
4-Amino-2,6-dinitrotoluene	2.12	1.97	mg/kg	93	SW846 8330
4-Nitrotoluene	2.12	2.16	mg/kg	102	SW846 8330
HMX	2.12	2.08	mg/kg	98	SW846 8330
Nitrobenzene	2.12	2.21	mg/kg	104	SW846 8330
RDX	2.12	2.08	mg/kg	98	SW846 8330
Tetryl	2.12	2.17	mg/kg	102	SW846 8330
Nitroglycerin	21.2	21.8	mg/kg	103	SW846 8330
PETN	21.2	21.0	mg/kg	99	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	102	(83 - 122)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

HPLC

Client Lot #....: D7B150320 Work Order #....: JPHPC1AC-MS Matrix.....: SOLID
 MS Lot-Sample #: D7B150320-002 JPHPC1AD-MSD
 Date Sampled....: 02/12/07 14:05 Date Received...: 02/15/07
 Prep Date.....: 02/20/07 Analysis Date...: 02/23/07
 Prep Batch #....: 7051331 Analysis Time...: 01:55
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,3-Dinitrobenzene	104	(80 - 124)			SW846 8330
	104	(80 - 124)	1.1	(0-40)	SW846 8330
1,3,5-Trinitrobenzene	106	(75 - 129)			SW846 8330
	105	(75 - 129)	0.38	(0-40)	SW846 8330
2-Amino-4,6- dinitrotoluene	105	(66 - 137)			SW846 8330
	98	(66 - 137)	6.1	(0-40)	SW846 8330
2-Nitrotoluene	105	(77 - 125)			SW846 8330
	112	(77 - 125)	7.6	(0-40)	SW846 8330
2,4-Dinitrotoluene	102	(80 - 124)			SW846 8330
	105	(80 - 124)	3.6	(0-40)	SW846 8330
2,4,6-Trinitrotoluene	100	(72 - 130)			SW846 8330
	100	(72 - 130)	1.2	(0-40)	SW846 8330
2,6-Dinitrotoluene	103	(78 - 127)			SW846 8330
	109	(78 - 127)	6.4	(0-40)	SW846 8330
3-Nitrotoluene	105	(75 - 127)			SW846 8330
	105	(75 - 127)	1.5	(0-40)	SW846 8330
4-Amino-2,6- dinitrotoluene	83	(74 - 132)			SW846 8330
	55 a	(74 - 132)	39	(0-40)	SW846 8330
4-Nitrotoluene	105	(71 - 136)			SW846 8330
	108	(71 - 136)	3.7	(0-40)	SW846 8330
HMX	100	(70 - 129)			SW846 8330
	96	(70 - 129)	3.5	(0-40)	SW846 8330
Nitrobenzene	104	(80 - 121)			SW846 8330
	106	(80 - 121)	2.2	(0-40)	SW846 8330
RDX	92	(75 - 128)			SW846 8330
	94	(75 - 128)	2.3	(0-40)	SW846 8330
Tetryl	103	(28 - 160)			SW846 8330
	100	(28 - 160)	1.4	(0-40)	SW846 8330
Nitroglycerin	104	(68 - 131)			SW846 8330
	104	(68 - 131)	1.2	(0-40)	SW846 8330
PETN	104	(69 - 132)			SW846 8330
	105	(69 - 132)	1.9	(0-40)	SW846 8330

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: D7B150320 Work Order #...: JPHPC1AC-MS Matrix.....: SOLID
MS Lot-Sample #: D7B150320-002 JPHPC1AD-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
1,2-Dinitrobenzene	103	(83 - 122)
	109	(83 - 122)

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.

MATRIX SPIKE SAMPLE DATA REPORT

HPLC

Client Lot #...: D7B150320 Work Order #...: JPHPC1AC-MS Matrix.....: SOLID
 MS Lot-Sample #: D7B150320-002 JPHPC1AD-MSD
 Date Sampled...: 02/12/07 14:05 Date Received...: 02/15/07
 Prep Date.....: 02/20/07 Analysis Date...: 02/23/07
 Prep Batch #...: 7051331 Analysis Time...: 01:55
 Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
1,3-Dinitrobenzene	ND	2.46	2.56	mg/kg	104		SW846 8330
	ND	2.49	2.58	mg/kg	104	1.1	SW846 8330
1,3,5-Trinitrobenzene	ND	2.46	2.62	mg/kg	106		SW846 8330
	ND	2.49	2.61	mg/kg	105	0.38	SW846 8330
2-Amino-4,6-dinitrotoluene	ND	2.46	2.58	mg/kg	105		SW846 8330
	ND	2.49	2.43	mg/kg	98	6.1	SW846 8330
2-Nitrotoluene	ND	2.46	2.57	mg/kg	105		SW846 8330
	ND	2.49	2.78	mg/kg	112	7.6	SW846 8330
2,4-Dinitrotoluene	ND	2.46	2.51	mg/kg	102		SW846 8330
	ND	2.49	2.60	mg/kg	105	3.6	SW846 8330
2,4,6-Trinitrotoluene	ND	2.46	2.47	mg/kg	100		SW846 8330
	ND	2.49	2.50	mg/kg	100	1.2	SW846 8330
2,6-Dinitrotoluene	ND	2.46	2.55	mg/kg	103		SW846 8330
	ND	2.49	2.72	mg/kg	109	6.4	SW846 8330
3-Nitrotoluene	ND	2.46	2.58	mg/kg	105		SW846 8330
	ND	2.49	2.62	mg/kg	105	1.5	SW846 8330
4-Amino-2,6-dinitrotoluene	ND	2.46	2.03	mg/kg	83		SW846 8330
	ND	2.49	1.37	mg/kg	55 a	39	SW846 8330
4-Nitrotoluene	ND	2.46	2.59	mg/kg	105		SW846 8330
	ND	2.49	2.69	mg/kg	108	3.7	SW846 8330
HMX	ND	2.46	2.47	mg/kg	100		SW846 8330
	ND	2.49	2.38	mg/kg	96	3.5	SW846 8330
Nitrobenzene	ND	2.46	2.57	mg/kg	104		SW846 8330
	ND	2.49	2.63	mg/kg	106	2.2	SW846 8330
RDX	ND	2.46	2.28	mg/kg	92		SW846 8330
	ND	2.49	2.33	mg/kg	94	2.3	SW846 8330
Tetryl	ND	2.46	2.54	mg/kg	103		SW846 8330
	ND	2.49	2.50	mg/kg	100	1.4	SW846 8330
Nitroglycerin	ND	24.6	25.6	mg/kg	104		SW846 8330
	ND	24.9	25.9	mg/kg	104	1.2	SW846 8330
PETN	ND	24.6	25.7	mg/kg	104		SW846 8330
	ND	24.9	26.2	mg/kg	105	1.9	SW846 8330

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

HPLC

Client Lot #...: D7B150320

Work Order #...: JPHPC1AC-MS

Matrix.....: SOLID

MS Lot-Sample #: D7B150320-002

JPHPC1AD-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
1,2-Dinitrobenzene	103	(83 - 122)
	109	(83 - 122)

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.

3-6
2/15/07
IRZ

SUBCONTRACT ORDER - PROJECT # IQB1219

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: _____ **Initials:** _____

Analysis	Expiration	Comments
Sample ID: IQB1219-07 Soil Sampled: 02/12/07 14:05		
8330-Nitroaromatics-OUT	02/26/07 14:05	Boeing EDD, sub to STL-Den quote # 72743
Level 4 Data Package - Out	03/12/07 14:05	Sub to STL-Denver

Containers Supplied:

2 oz jar (IQB1219-07E)

Sample ID: IQB1219-08 Soil Sampled: 02/12/07 14:05		
8330-Nitroaromatics-OUT	02/26/07 14:05	Boeing EDD, sub to STL-Den quote # 72743
Level 4 Data Package - Out	03/12/07 14:05	Sub to STL-Denver

Containers Supplied:

2 oz jar (IQB1219-08E)

SAMPLE INTEGRITY:

All containers intact: ☐ Yes ☐ No

Sample labels/COC agree: ☐ Yes ☐ No

Samples Received On Ice: ☐ Yes ☐ No

Custody Seals Present: ☐ Yes ☐ No

Samples Preserved Properly: ☐ Yes ☐ No

Samples Received at (temp): _____

Chambers *2/14/07* *1000* *2-15-07*
Released By Date Time Received By Date Time

Released By Date Time Received By Date Time

STL Denver
Sample Receiving Checklist

Lot #: D7150320 Date/Time Received: 2.15.07 1000

Company Name & Sampling Site: Test America - Boeing

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): 3.6°

N/A Yes No

Initials

- ☒ ☒ ☐ 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR. aw
- ☒ ☐ ☐ 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 # D7B150320

Login Checks:

Initials

AK

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? (
- ☐ ☐ 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

PS

- ☒ ☐ 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

Report Date: 03/02/07 16:54

Received Date: 02/14/07 11:40

Turn Around: Normal

Phone: (949) 261-1022

Fax: (949) 260-3297

Work Order #: 7021428

Client Project: IQB1219

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 02/14/07 11:40 with the Chain of Custody document. The samples were received in good condition, at 3.0 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Reviewed by:

Taylor Malignat

Taylor Malignat

Project Manager



Page 1 of 10





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: 7021428
Project ID: IQB1219

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

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IQB1219-01	client		7021428-01	Solid	02/12/07 10:25
IQB1219-03	client		7021428-02	Solid	02/12/07 10:50
IQB1219-04	client		7021428-03	Solid	02/12/07 11:20
IQB1219-07	client		7021428-04	Solid	02/12/07 14:05
IQB1219-08	client		7021428-05	Solid	02/12/07 14:05



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: 7021428
Project ID: IQB1219

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

QUALITY CONTROL SECTION



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: 7021428
Project ID: IQB1219

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

Metals (Non-Aqueous) by EPA 6777/2777 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch W2B7623 - EPA 2621A										
Blank (W2B7623-BLK1)				Analyzed: 02/22/07						
Mercury, Total	0.00108	0.010	mg/kg wet							J
LCS (W2B7623-BS1)				Analyzed: 02/22/07						
Mercury, Total	0.0827	0.010	mg/kg wet	0.0833		99.3	80-120			
Matrix Spike (W2B7623-MS1)				Source: 2721322-17		Analyzed: 02/22/07				
Mercury, Total	0.146	0.011	mg/kg dry	0.0926	0.052	102	70-130			
Matrix Spike (W2B7623-MS2)				Source: 2721620-78		Analyzed: 02/22/07				
Mercury, Total	0.104	0.011	mg/kg dry	0.0908	0.017	95.8	70-130			
Matrix Spike Dup (W2B7623-MSD1)				Source: 2721322-17		Analyzed: 02/22/07				
Mercury, Total	0.148	0.011	mg/kg dry	0.0897	0.052	107	70-130	1.36	25	
Matrix Spike Dup (W2B7623-MSD2)				Source: 2721620-78		Analyzed: 02/22/07				
Mercury, Total	0.102	0.011	mg/kg dry	0.0923	0.017	92.1	70-130	1.94	25	



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: 7021428
Project ID: IQB1219

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

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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.

CHAIN OF CUSTODY RECORD

[illegible]

1. Reinquished by: <i>Cofed Seara</i>	Date: <i>2-13-07</i>	2. Received by: <i>Guirel Du</i>	Date: <i>2/13/07</i>	3. Reinquished by: <i>Guirel Du</i>	Date: <i>2/13/07</i>	4. Received by: <i>[Signature]</i>	Date: <i>2/13/07</i>
Company: NANH	Time: <i>09:29</i>	Company: <i>CS TAMESEA</i>	Time: <i>09:29</i>	Company: <i>CS AME-UCA</i>	Time: <i>13:11</i>	Company: <i>TAI</i>	Time: <i>BIS</i>

Comments: Lab Leachate for all perchlorate analysis.

Constructer EDF ☐ Data Validation Package ☒ Level IV *0.1%*

LABORATORY REPORT

Prepared For: M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project: Building 56 Landfill
 Boeing SSFL

Sampled: 09/17/03
 Received: 09/18/03
 Issued: 10/07/03

NELAP #01108CA

CA ELAP #1197

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 This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IM 1185-01	MT729	Water
IM 1185-02	MT730	Water
IM 1185-03	MT731	Water
IM 1185-04	MT732	Water
IM 1185-05	MT733	Water
IM 1185-06	MT734	Water
IM 1185-07	MT735	Water
IM 1185-08	MT736	Water
IM 1185-09	MT737	Water
IM 1185-10	MT738	Water
IM 1185-11	MT739	Water
IM 1185-12	MT740	Water



Del Mar Analytical, Irvine
 Michelle Harper
 Project Manager

M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
Boeing SSFL
Report Number: IM I1185

Sampled: 09/17/03
Received: 09/18/03

DATA QUALIFIERS AND DEFINITIONS

M 1 The M S and/or M SD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
ND Analyte NOT DETECTED at or above the reporting limit or M DL, if M DL is specified.
R PD Relative Percent Difference

Del Mar Analytical, Irvine
Michelle Harper
Project Manager

M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
Boeing SSFL
Report Number: IM 1185

Sampled: 09/17/03
Received: 09/18/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 314.0	Water	N/A	X

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

Del Mar Analytical, Irvine
Michelle Harper
Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

INT 1185-

Chain of Custody

Control Number: COC MT 7.29

Project Manager: •Dale Hornbeck
Project Name: Boeling SSFL
Project Number: 1870818-016
Deliver the results to the address above or as stated in contract

Bill To:	Lowell Moffitt
Company:	MWH
Address:	250 N. Madison Avenue, Pasadena, CA, 91101

Date / /	Page of
Sample Disposal Instructions: Laboratory Disposal	
Shipment Method:	
Comment:	

Cooler No.	
QC Level:	
TAT:	NORMAL

[illegible]

Sample Data						
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number Lab ID
MT729	BUS 41 S01	7.1	20	9/17/13	1045	
MT730	BUS 42 S01	1	20		1050	
MT731	BUS 37 S01	1			1004	
MT732	BUS 35 D01	1			0925	
MT733	BUS 35 S01				0925	
MT734	BUS 38 S01		6		1022	
MT735	BUS 38 36 S01		8		1001	
MT736	BUS 32 S01		2		0836	
MT737	BUS 34 S01		6		0855	
MT738	BUS 40 S01		8		1030	
MT739	BUS 39 S01		8		1027	
MT740	BUS 33 S01		8		0842	

[illegible][illegible]

Sampler's Signature:

Samples Signature: 	Date 9/18/08	Time 1445
---	-----------------	--------------

Relinquished By:

Relinquished By: <i>[Signature]</i>	Date	Time
	9/8/03	5:25

Received

Received By	Date	Time
<i>[Signature]</i>	9-8-07	1520

Relinquished By:

Released By: <i>[Signature]</i>	Date: 9-18-13	Time: 1850
---------------------------------	---------------	------------

Received By (LAB):

Received By (LAB):	Date	Time
S. Varnas	9-16-03	18:50

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



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

MONTGOMERY WATSON HARZA

Chain of Custody

Control Number: COC MT 7.29

Date 11/1 Page 1 of 1
 Sample Disposal Instructions: Laboratory Disposal
 Shipment Method:
 Comment: Biohazard

Bill To:	Lowell Moffitt
Company:	MWH
Address:	250 N. Madison

Project manager: Mike Hambrick JOHN JAFFE
Project Name: Boeing SSFL
Project Number: 1870818-0116
Deliver the results to the address above or as stated in contract

Cooler No.	
QC Level:	
TAT:	NORMAL

TAT:

NORMAL

Preservatives

residues

Sample Data

Sample Data						
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	U.S. Number Lab ID
MT729	BUS 41 S01	7.1	20	9/17/04	1045	
MT730	BUS 42 S01					
MT731	BUS 37 S01		20		1050	
MT732	BUS 35 D01				1004	
MT733	BUS 35 S01				0925	
MT734	BUS 38 S01		6		0925	
MT735	BUS 38 36 S01		8		1022	
MT736	BUS 32 S01		2		1001	
MT737	BUS 34 S01		6		0836	
MT738	BUS 40 S01		8		0855	
MT739	BUS 39 S01		8		1030	
MT740	BUS 33 S01		8		1027	
MT741	BUS 33 S01		8		0847	

amplere Signature:

Date: 9/16/2014
 Time: 1445
 Sample Signature: *Bracey K. Bracey*

Relinquished By:

Relinquished By:	Date	Time
<i>[Signature]</i>	7/8/03	5:00

~~Received By~~

Received By	Date	Time
<i>[Signature]</i>	9-8-07	1500

Witnessed By:

Received By (LAB):	Date	Time
Received By (LAB):	9-18-13	1850

Received By (LAB):

Received By (LAB):	Date	Time
S. Vamias	6-14-03	1855

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

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

Preservatives

residues

Matrix

[illegible][illegible]

For Lab Use

Lab Number:

Lab Number: _____

Does COC match samples: Y or N _____

Broken container: Y or N

Received within holding time: Y or N

COC Seal Intact: Y or N

Any other problems: Y or N

Any other problems: Y or N

Date Contacted: / /

Date Contacted: 1/1
Temperature °C 40 Sh

LABORATORY REPORT

Prepared For: M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project: Building 56 Landfill
 Boeing SSFL

Sampled: 09/15/03-09/17/03
 Received: 09/18/03
 Issued: 10/10/03

NELAP #01108CA CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 4 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IM 1182-01	MT713	Water
IM 1182-02	MT714	Water
IM 1182-03	MT715	Water
IM 1182-04	MT716	Water
IM 1182-05	MT717	Water
IM 1182-06	MT718	Water
IM 1182-07	MT719	Water
IM 1182-08	MT720	Water
IM 1182-09	MT721	Water
IM 1182-10	MT722	Water
IM 1182-11	MT723	Water
IM 1182-12	MT724	Water
IM 1182-13	MT725	Water
IM 1182-14	MT726	Water
IM 1182-15	MT727	Water
IM 1182-16	MT728	Water



Del Mar Analytical, Irvine
 Michelle Harper
 Project Manager

M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
Boeing SSFL
Report Number: IM 1182

Sampled: 09/15/03-09/17/03
Received: 09/18/03

DATA QUALIFIERS AND DEFINITIONS

M 1 The M S and/or M SD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
RL -1 Reporting limit raised due to sample matrix effects.
ND Analyte NOT DETECTED at or above the reporting limit or M DL, if M DL is specified.
R PD Relative Percent Difference

Del Mar Analytical, Irvine
Michelle Harper
Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM IL182

Sampled: 09/15/03-09/17/03
 Received: 09/18/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 314.0	Water	N/A	X

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

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



MONTGOMERY WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

IMI 1182

Chain of Custody

Control Number: COC MT 713

Date 5/17/03 Page 1 of 2

Project Manager:	Glenn Jaffe
Project Name:	Boeing SFIL
Project Number:	1840818.0116
Deliver the results to the address above or as stated in contract	

Bill To:	Lowell Moffitt
Company:	MWH
Address:	250 N. Madison Avenue, Pasadena, CA 91101
	320 N. CAKE AVE., SUITE 1200

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	LAB PICK-UP
Comment:	1556 LANDFILL

Cooler No.	
QC Level:	
TAT:	NORMAL

Preservatives	
---------------	--

4°C	HCL, PH<2
4°C	HCL, PH<2
4°C	TPH
4°C	8270CSIM
4°C	SVOC
4°C	8270C
4°C	SVOC
4°C	8290
4°C	DIOXINS
4°C	8315A
4°C	FORMALDEHYDE
4°C	8330
4°C	ORDNANCE
4°C	6000/7000
4°C	METALS
4°C	7196A
4°C	HEX CHROMIUM
4°C	8082
4°C	PCBS
4°C	9040B/9045C
4°C	PH
4°C	340.2
4°C	FLUORIDE
4°C	300M
4°C	ANIONS
4°C	300M
4°C	PERCHLORATES

Sample Data					U/LS Number	Lab ID
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	
MT 713	BUS 19 S01		5	9/17/03	1045	
MT 714	BUS 27 S01		2	9/14/03	1325	
MT 715	BUS 22 S01			9/16/03	0826	
MT 716	BUS 18 S01		2	9/16/03	1022	
MT 717	BUS 30 S01		2	9/16/03	1354	
MT 718	BUS 28 S01		2	9/16/03	1330	
MT 719	BUS 26 S01		2	9/16/03	1318	
MT 720	BUS 23 S01		8	9/16/03	0915	
MT 721	BUS 17 S01		2	9/15/03	0855	
MT 722	BUS 31 S01		2	9/16/03	1358	
MT 723	BUS 25 S01		12	9/16/03	0950	
MT 724	BUS 29 D01		2	9/16/03	1347	

Matrix	
Soil	
Water	
Product	

8260B	VOC	
8015BM	VOC	
8270CSIM	TPH	
8270C	SVOC	
8290	SVOC	
DIOXINS	8315A	
FORMALDEHYDE	8330	
ORDNANCE	6000/7000	
METALS	7196A	
HEX CHROMIUM	8082	
PCBS	9040B/9045C	
PH	340.2	
FLUORIDE	300M	
ANIONS	300M	
PERCHLORATES	300M	
MS/MSD	Method	
Extra Volume	Method	
HOLD	Total # of Bottles	

Samplers Signature:	<i>Ethens Lutz</i>	Date	9-17-03	Time	1600
Relinquished By:	<i>Glenn Jaffe</i>	Date	9/18/03	Time	1525
Received By:	<i>Ray Jaffe</i>	Date	9-18-03	Time	1525
Relinquished By:	<i>Ray Jaffe</i>	Date	9-18-03	Time	1850
Received By (LAB):	<i>S. Vamler</i>	Date	9-18-03	Time	1810

Lab Number:	
Does COC match samples:	Y or N
Broken container:	Y or N
Received within holding time:	Y or N
COC Seal Intact:	Y or N
Any other problems:	Y or N
If any YES, MWH contacted:	Y or N
Date Contacted:	1/1
Temperature °C	60
Intact	

For Lab Use

Comments:



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

MONTGOMERY WATSON HARZA

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

LABORATORY REPORT

Prepared For: M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project: Building 56 Landfill
Boeing SSFL

Sampled: 09/16/03-09/17/03
Received: 09/17/03
Revised: 12/10/03

NELAP #01108CA CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.

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 U-flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL INFORMATION: The report was revised due to inconsistent reporting limits for the Tentatively Identified Compounds. The reporting limits were originally 50 & 200 ug/kg and are all now 50 ug/kg without dry weight correction.

LABORATORY ID	CLIENT ID	MATRIX
IM 1169-01	MT699	Soil
IM 1169-02	MT700	Soil
IM 1169-03	MT701	Soil
IM 1169-04	MT702	Soil
IM 1169-05	MT703	Soil
IM 1169-06	MT705	Soil
IM 1169-07	MT706	Soil
IM 1169-08	MT707	Soil
IM 1169-09	MT708	Soil

M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
Boeing SSFL
Report Number: IM 1169

Sampled: 09/16/03-09/17/03
Received: 09/17/03

LABORATORY ID
IM 1169-10

CLIENT ID
MT709

MATRIX
Water



Del Mar Analytical, Irvine
Michele Harper
Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM 1169

Sampled: 09/16/03-09/17/03
 Received: 09/17/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T699 (IM 1169-01) - Soil EPA 9045C	1	09/16/2003 09:30	09/17/2003 17:20	09/19/2003 20:30	09/19/2003 22:00
Sample ID : M T700 (IM 1169-02) - Soil EPA 9045C	1	09/17/2003 10:10	09/17/2003 17:20	09/19/2003 20:03	09/19/2003 22:00
Sample ID : M T701 (IM 1169-03) - Soil EPA 9045C	1	09/17/2003 08:50	09/17/2003 17:20	09/19/2003 20:03	09/19/2003 22:00
Sample ID : M T702 (IM 1169-04) - Soil EPA 9045C	1	09/17/2003 09:13	09/17/2003 17:20	09/19/2003 20:03	09/19/2003 22:00
Sample ID : M T703 (IM 1169-05) - Soil EPA 9045C	1	09/16/2003 08:35	09/17/2003 17:20	09/19/2003 20:30	09/19/2003 22:00
Sample ID : M T705 (IM 1169-06) - Soil EPA 9045C	1	09/17/2003 09:13	09/17/2003 17:20	09/19/2003 20:30	09/19/2003 22:00
Sample ID : M T706 (IM 1169-07) - Soil EPA 9045C	1	09/16/2003 09:50	09/17/2003 17:20	09/19/2003 20:30	09/19/2003 22:00
Sample ID : M T707 (IM 1169-08) - Soil EPA 9045C	1	09/17/2003 08:27	09/17/2003 17:20	09/19/2003 20:30	09/19/2003 22:00
Sample ID : M T708 (IM 1169-09) - Soil EPA 9045C	1	09/16/2003 09:15	09/17/2003 17:20	09/19/2003 20:30	09/19/2003 22:00

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM IL169

Sampled: 09/16/03-09/17/03
 Received: 09/17/03

DATA QUALIFIERS AND DEFINITIONS

H -1	Sample analysis performed past the method-specified holding time per client's approval.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
M -HA	Due to high levels of analyte in the sample, the M S/M SD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M 2	The M S and/or M SD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
R	The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries, however, were within acceptance limits.
R -3	The RPD exceeded the method control limit due to sample matrix effects.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA N IH library.

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

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

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM 1169

Sampled: 09/16/03-09/17/03
 Received: 09/17/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8260B	Water	X	X
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

CalScience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM 1169-01, IM 1169-02, IM 1169-03, IM 1169-04, IM 1169-05, IM 1169-06, IM 1169-07,
 IM 1169-08, IM 1169-09

EMS Laboratories CA ELAP Cert#1119

117 W. Bellevue Drive - Pasadena, CA 91105

Analysis Performed: Asbestos By PLM

Samples: IM 1169-04, IM 1169-06, IM 1169-08, IM 1169-09

Del Mar Analytical, Irvine

Michelle Harper

Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

IMI 1169

Control Number: **COC MT699**

Date 9/16/03 Page 1 of 1

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: AB PICK UP

Comment: 2000-10-10

Project Manager: Dido Hambrook
Project Name: Boeing SSFL
Project Number: 1810818-0116
Deliver the results to the address above or as stated in contract

Cooler No. _____	
QC Level: _____	
TAT: _____	NORMAL

Bill To: Lowell Moffitt
Company: MWH
Address: 250 N. Lincoln Avenue, Pasadena, CA, 91101
300 N. Lake Ave Suite 1200

[illegible]

Sample Data						
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	Uls Number
MT699	BUTS19S02	7	11	9/16/03	0930	
MT700	BUTS26S01		6	9/17/03	1010	
MT701	BUTS31S01		2	9/17/03	0850	0850
MT702	BUTS27D01		2	9/17/03	0913	
	BUTS26D01		5	9/17		
MT703	BUTS13S02		7	9/16/03	0835	
MT704	BUTS19S02		11	9/16/03	0930	
MT705	BUTS27S01		2	9/17/03	0913	
MT706	BUTS18S02		12	9/16/03	0950	
MT707	BUTS33S01		6	9/17/03	0827	
MT708	BUTS06S02		8	9/16/03	0915	
MT709	BCAW14S01			9/16/03	1100	

[illegible][illegible]

Samplers Signature:	Date	Time
Gregory Schep	9/17/03	1505
Relinquished By:	Date	Time
Gregory Schep	9/17/03	1505
Received By:	Date	Time
Gregory Schep	9/17/03	1505
Relinquished By:	Date	Time
Gregory Schep	9/17/03	1720
Received By (KAB):	Date	Time
Gregory Schep	9/17/03	1720

Lab Number:	For Lab Use	
Does COC match samples: ☒ Y or ☒ N	1 Sample Analyzed in twice lab	
Broken container: ☒ Y or ☒ N	Comments:	
Received within holding time: ☒ Y or ☒ N	ANALYZE FOR TCE AND/OR STLC AS NEEDED FOR HAZARDOUS WASTE CHARACTERIZATION	
COC Seal Intact: Y or N	* BUT SO6 SO2 - SAMPLE WET DID NOT COLLECT VOC w/ ENCORE SAMPLER	
Any other problems: Y or N		
If any YES, MWH contacted: Y or N		
Date Contacted: 1/1		
Temperature °C	20°C	

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



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

MONTGOMERY WATSON HARZA

6911 Int

Chain of Custody

Control Number: COC VNT 649

Project Manager: Dale Hemmick GLENN AFEE
Project Name: Boeing SSFL
Project Number: 1840818 0116
Deliver the results to the address above or as stated in contract

Cooler No.	
QC Level:	
TAT:	NORMAL

Bill To: Lowell Moffitt
Company: MWH
Address: 250 N. Madison Avenue, Pasadena, CA, 91101
300 N. LAKE AVE SUITE 1200

Date 11/16/03 Page 1 of 1
Sample Disposal Instructions: Laboratory Disposal
Shipment Method: CAR PICK UP
Comment: BSG LANDFILL

[illegible]

Sample Data									
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	U/S Number	Lab ID	Matrix	
								Soil	Water
MT699	BCTS19S02	7.1	11	9/16/03	0930			X	
MT700	BCTS26S01		6	9/17/03	1010			X	
MT701	BCTS31S01		2	9/17/03	0850			X	
MT702	BCTS27D01		2	9/17/03	0913			X	
	BCTS26D01		5	9/17				X	
MT703	BCTS13S02		7	9/16/03	0835			X	
MT704	BCTS19S02	202	11	9/16/03	0930			X	
MT705	BCTS27S01		2	9/17/03	0913			X	
MT706	BCTS18S02		12	9/16/03	0950			X	
MT707	BCTS33S01		6	9/17/03	0827			X	
MT708	BCTS06S02		8	9/16/03	0915			X	
MT709	BLAW14S01			9/16/03	1100			X	

Lab Number:	1 Sample bagged in twice-bag	For Lab Use
Does COC match samples: ☒ Y or ☐ N	Comments: ANALYZE FOR TCE AND/OR STC & ANALYZE AS NEEDED FOR HAZARDOUS WASTE CHARACTERIZATION * BUTS06S02 - SAMPLE WET DID NOT COLLECT VOC w/ ENCORE SAMPLER at 9500 ft	
Broken container: ☐ Y or ☐ N		
Received within holding time: ☐ Y or ☐ N		
COC Seal Intact: ☐ Y or ☐ N		
Any other problems: ☐ Y or ☐ N		
If any YES, MWH contacted: ☐ Y or ☐ N		
Date Contacted: 1/1/00		
Temperature °C: 2°C		

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

F A X



1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/19/2003

Tel: 619-699-4124
Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao
sign: Edmund Sarao

Subject: Chain-of-Custody Form Analytical
Request Change

No. of Pages: 2
(including cover)

Per Request:

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

COC No.	EPA Sample ID	Original MWH Sample ID	Date Collected	Method (s) Originally Requested	Method (s) and Changes Now Requested
MT699	MT704	BLTS19S02	09/16/2003	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)	Do not analyze. Discard any remaining sample.

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

X

Thank you.

Chain of Custody

Control Number: **COC MT679**

Date: 7/14/83 Page 1 of 1
Sample Disposal Instructions: Laboratory Disposal
Shipment Method: LAB PICK UP
Comments: BSG LANDFILL

Bill To: LowellMottish
Company: BWH
Address: 350A Madison Avenue, Pasadena, CA, 91103
300 N. LAKE AVE SUITE 1200

Project mailing to: John Hemmick
Project Name: Boeing SSFL
Project Number: 194081X - 0116
Deliver the results to the address above or as stated in contract

Cooler No.	
QC Level:	
TAT:	NORMAL

Penetration

Sample Data						
Sample ID	Description (for MMH use only)	SWMU	6 2	Date Collected	Time Collected	UFS Number
MT 699	BUTS19S02	7.1	11	9/16/03	0930	
MT 700	BUTS26S01		6	9/17/03	1010	
MT 701	BUTS31S01		2	9/17/03	0850	2850
MT 702	BUTS27D01		2	9/17/03	0913	
	BUTS26D01		5	9/17		
MT 703	BUTS13S02		7	9/16/03	0835	
MT 704	BUTS19S02		11	9/16/03	0930	
MT 705	BUTS27S01		2	9/17/03	0913	
MT 706	BUTS18S02		12	9/16/03	0950	
MT 707	BUTS33S01		6	9/17/03	0827	
MT 708	BUTS06S02		8	9/16/03	0915	
MT 709	BCAW14S01			9/16/03	1000	

[illegible][illegible]

Signature:	Date	Time
<i>Broer</i>	9/17/03	1505
Disinfectant By:	Date	Time
<i>Broer</i>	9/17/03	1505
Received by:	Date	Time
<i>Broer</i>	9/17/03	1505
Relinquished By:	Date	Time
<i>Broer</i>	9/17/03	1720
Received by (A):	Date	Time
<i>Broer</i>	9-17-03	1720

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

For Lab Use

1 Sample lodged in Foreign Office

Lab Number:

Does CQC match samples: ☒ Y or ☐ N Broken container: ☒ Y or ☐ N (you're breaking) Received within holding time: ☒ Y or ☐ N CQC Seal Intact: Y or N Any other problems: Y or N If any YES, MWH contacted: Y or N Date Collected: 1/1 Temperature °C: 20°C	COMMENTS: ANALYZE FOR TCEP AND/OR STELL AS NEEDED FOR HAZARDOUS WASTE CHARACTERIZATION * BT506502 - SAMPLE WET DID NOT COLLECT VOC w/ ENCORE SAMPLER
--	--



CASE NARRATIVE

Client: MWH

Date Sampled: 09/16/03 – 09/17/03

Project: Building 56 Landfill Boeing SSFL

Date Received: 09/17/03

Lab: IMI1169

SAMPLE RECEIPT: Samples were received intact on ice and with chain of custody number MT699. The sample temperature was measured at 2°C upon receipt at the laboratory.

HOLDING TIMES: The samples IMI1169-01, -02, -03, -04, -05, -06, -07, -08, and -09 EPA 9045C analysis were performed past specified holding time with clients approval.

PROBLEMS

ENCOUNTERED: No additional problems were encountered during sample analysis.

QA/QC CRITERIA: The MS/MSD RPD for Bromoform exceeded the method control limits due to sample matrix effects for EPA 5035/8260B QC batch 3I22082. The individual analyte QA/QC recoveries were within acceptance limits.

The MSD recovery for 1,4-Dichlorobenzene was below acceptance limits due to sample matrix interference for EPA 5035/8260B QC batch 3I23027. The batch was accepted based on acceptable recovery in the LCS.

The MS/MSD recovery for Antimony was below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3I25057. The batch was accepted based on acceptable recovery in the LCS.

The MS/MSD RPD for 1,4-Dichlorobenzene exceeded the method control limits due to sample matrix effects for EPA 5035/8260B QC batch 3I23027.

Cobalt and Zinc were detected in the Method Blank of QC batch 3I25057.

Due to high levels of Aluminum in sample IMI1096-12, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3I25057. The batch was accepted based on acceptable recovery in the LCS.

OBSERVATIONS: Results that fall between the MDL and RL are "J" flagged.

Extractable Fuel Hydrocarbons (C8-C30) were quantitated against a Diesel Fuel Standard.

M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
Boeing SSFL
Report Number: IM 1169

Sampled: 09/16/03-09/17/03
Received: 09/17/03

LABORATORY ID

IM 1169-10

CLIENT ID

MT709

MATRIX

Water



Del Mar Analytical, Irvine
Michele Harper
Project Manager

LABORATORY REPORT

Prepared For: M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project: Building 56 Landfill
Boeing SSFL

Sampled: 09/16/03-09/17/03
Received: 09/17/03
Revised: 12/10/03

NELAP #01108CA CA ELAP #1197

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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: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.

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 U-flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL INFORMATION: The report was revised due to inconsistent reporting limits for the Tentatively Identified Compounds. The reporting limits were originally 50 & 200 ug/kg and are all now 50 ug/kg without dry weight correction.

LABORATORY ID	CLIENT ID	MATRIX
IM 1169-01	MT699	Soil
IM 1169-02	MT700	Soil
IM 1169-03	MT701	Soil
IM 1169-04	MT702	Soil
IM 1169-05	MT703	Soil
IM 1169-06	MT705	Soil
IM 1169-07	MT706	Soil
IM 1169-08	MT707	Soil
IM 1169-09	MT708	Soil



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

IMI 1169

Control Number: COC MT699

Date 9/14/03 Page 1 of 1

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: CAB PICK UP
Comment: OCC: 1050

Comment: 0 - 105

Project Manager: David Hensbrink
 Project Name: Boeing SSFL
 Project Number: 1810818-0116
 Deliver the results to the address above or as stated in contract

Cooler No.	
QC Level:	TAT: <i>NORMAL</i>

Bill To: Lowell Moffitt
Company: MWH
Address: 250 N. Medeiros Avenue, Pasadena, CA, 91101
300 N. LAKE AVE SUITE 1200

[illegible]

Sample Data							
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number	Lab ID
MT 699	BUTS19S02	7	11	9/16/03	0930		
MT 700	BUTS26S01	1	6	9/17/03	1010		
MT 701	BUTS31S01		2	9/17/03	0850	0850	
MT 702	BUTS27D01		2	9/17/03	0913		
MT 703	BUTS26D01		5	9/17			
MT 703	BUTS13S02		7	9/16/03	0835		
MT 704	BUTS19S02		11	9/16/03	0930		
MT 705	BUTS27S01		2	9/17/03	0913		
MT 706	BUTS18S02		12	9/16/03	0950		
MT 707	BUTS33S01		6	9/17/03	0827		
MT 708	BUTS06S02		8	9/16/03	0915		
MT 709	BCAW14S01			9/16/03	1000		

[illegible][illegible]

Samplers Signature:	Date	Time
<i>Gregory K. Chiles</i>	9/17/03	1500
Relinquished By:	Date	Time
<i>Gregory K. Chiles</i>	9/17/03	1505
Received by:	Date	Time
<i>Sally Schep</i>	9/17/03	1505
Relinquished By:	Date	Time
<i>Sally Schep</i>	9/17/03	1720
Received By (KAP):	Date	Time
<i>at chiles</i>	9-17-03	1720

For Lab Use	
Lab Number:	1 Sample <i>logged in twice w/af</i>
Does COC match samples: ☒ or ☐ N	Comments: ANALYZE FOR TCEP AND/OR STLC AS NEEDED FOR HAZARDOUS WASTE CHARACTERIZATION * BUT SO6S02 - SAMPLE WET DID NOT COLLECT VOC w/ ENCORE SAMPLER
Broken container: ☐ or N	
Received within holding time: ☒ Y or N	
COC Seal Intact: Y or N	
Any other problems: Y or N	
If any YES, MWH contacted: Y or N	
Date Contacted: 1/1/	
Temperature °C 20C	

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



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

MONTGOMERY WATSON HARZA

ImT 6911

Chain of Custody

Control Number: COC INT6479

Project Manager: David Hambrecht
 Project Name: Boeing SSFL
 Project Number: 18-10818-0116
 Deliver the results to the address above or as stated in contract

Cooler No.	
QC Level:	TAT: <i>NORMAL</i>

Bill To: Lowell Moffitt
Company: MWH
Address: 250 N. Medison Avenue, Pasadena, CA, 91101
300 N. LAKE AVE SUITE 1200

QC Level:	
Cooler No.	
TAT:	NORMAL

Date: 11-18-12 Page: 1 of 1

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: LAB PICK UP

Comment: BSG LANDFILL

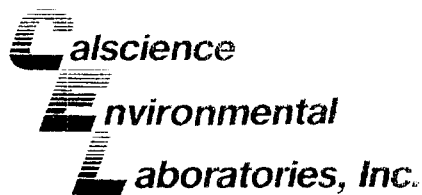
[illegible]

Sample Data						
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	U/S Number
MT699	BUTS19S02	7.1	11	9/16/08	0930	
MT700	BUTS26S01	1	6	9/17/08	1010	
MT701	BUTS31S01	1	2	9/17/08	0850	0850
MT702	BUTS27D01		2	9/17/08	0913	
MT703	BUTS26D01		5	9/17		
MT704	BUTS13S02	1	7	9/16/08	0835	
MT705	BUTS19S02	DO2	11	9/16/08	0930	
MT706	BUTS27S01		2	9/17/08	0913	
MT707	BUTS18S02		12	9/16/08	0950	
MT708	BUTS33S01	1	6	9/17/08	0827	
MT709	BUTS06S02		8	9/16/08	0915	
MT709	BLAW14S01	1	9	9/16/08	1020	

[illegible][illegible]

Samplers Signature:	<i>George Allen</i>	Date	9/17/03	Time	1500
Relinquished By:	<i>George Allen</i>	Date	9/17/03	Time	1505
Received By:	<i>Ang Schep</i>	Date	9/23	Time	1505
Relinquished By:	<i>Ang Schep</i>	Date	9/23	Time	1720
Received By (ABI):	<i>at Allen</i>	Date	9-17-03	Time	1720

Lab Number:	1 Sample bagged in twice shf	For Lab Use
Does COC match samples:	☒ or ☐ N	Comments:
Broken container:	☐ or ☐ N (vacu revs)	
Received within holding time:	☐ or ☐ N	
COC Seal Intact:	☐ or ☐ N	
Any other problems:	☐ or ☐ N	
If any YES, MWH contacted:	☐ or ☐ N	
Date Contacted:	1/1/	
Temperature °C	2°C	



October 17, 2003
PM029403

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: Calscience Work Order No.: 03-09-1217
Client Reference: IMI1169

Dear Ms. Harper:

Calscience Environmental Laboratories, Inc. (Calscience) is pleased to submit herewith the subject analytical report. The narrative presented below summarizes our analytical effort and clarifies any quality control anomalies which appear in the report.

Sample Condition on Receipt

Nine soil samples (11 containers) were received as part of this Work Order on September 22, 2003. The samples were transferred to the laboratory in an ice chest following strict chain-of-custody procedures. The temperature of the ice chest was measured upon arrival in the laboratory and was within acceptable limits (4°C). The samples were logged into the Laboratory Information Management System (LIMS), given laboratory identification numbers, and stored in refrigeration units pending analysis.

Data Summary

The samples were analyzed for PAHs and NDMA by EPA Method 8270C SIM and dry weight reported.

Holding Times

All holding time requirements were met.

Calibration

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



Blanks

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

Matrix Spikes

Matrix spikes (MS) and matrix spike duplicates (MSD) were performed at required frequencies. All recoveries were within acceptable limits.

Laboratory Control Samples

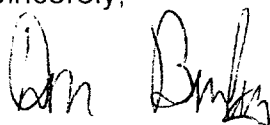
The Laboratory Control Sample (LCS) analyses were performed at the required frequency. All target compound recoveries were within acceptable limits.

Surrogates

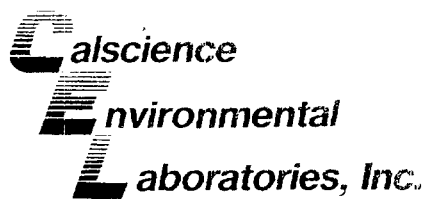
Surrogate recoveries for all samples were within acceptable control limits.

If there are any questions regarding this report, please contact the undersigned at (714) 895-5494.

Sincerely,



Calscience Environmental
Laboratories, Inc.
Don Burley
Project Manager



October 15, 2003

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: **Calscience Work Order No.: 03-09-1217**
Client Reference: IMI1169

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/22/2003 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Lane".

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

A handwritten signature in black ink, appearing to read "Michael J. Crisostomo".

Michael J. Crisostomo
Quality Assurance Manager

Work Order Number: 03-09-1217

<u>Qualifier</u>	<u>Definition</u>
J	Analyte was detected at a concentration below the reporting limit. Reported value is estimated.
ND	Not detected at indicated reporting limit.



2852 Alton Ave., Irvine, CA 92626 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IMI1169

1 of 2

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:

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

09-1217

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

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

Analysis	Expiration	Comments
Sample ID: IMI1169-01 Soil 8270C (SIM)-OUT	Sampled: 09/16/03 09:30 09/30/03 09:30	PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI1169-01C)		
Sample ID: IMI1169-02 Soil 8270C (SIM)-OUT	Sampled: 09/17/03 10:10 10/01/03 10:10	PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI1169-02C)		
Sample ID: IMI1169-03 Soil 8270C (SIM)-OUT	Sampled: 09/17/03 08:50 10/01/03 08:50	PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI1169-03C)		
Sample ID: IMI1169-04 Soil 8270C (SIM)-OUT	Sampled: 09/17/03 09:13 10/01/03 09:13	PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: 4 oz Jar (IMI1169-04D)		
Sample ID: IMI1169-05 Soil 8270C (SIM)-OUT	Sampled: 09/16/03 08:35 09/30/03 08:35	PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI1169-05C)		
Sample ID: IMI1169-06 Soil 8270C (SIM)-OUT	Sampled: 09/17/03 09:13 10/01/03 09:13	PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: 4 oz Jar (IMI1169-06D)		

Released By: *[Signature]* Date: 9-22-03 Time: 945 Received By: *[Signature]* Date: 9-22-03 Time: 945
Released By: *[Signature]* Date: 9-22-03 Time: 1045 Received By: *[Signature]* Date: 9/22/03 Time: 1834



2852 Alton Ave., Irvine, CA 92626 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IMI1169

2 of 2

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:

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

09-12-17

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

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

Analysis	Expiration	Comments
Sample ID: IMI1169-07 Soil 8270C (SIM)-OUT	Sampled: 09/16/03 09:50 09/30/03 09:50	PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI1169-07B)		
Sample ID: IMI1169-08 Soil 8270C (SIM)-OUT	Sampled: 09/17/03 08:27 10/01/03 08:27	PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: 4 oz Jar (IMI1169-08D)		
Sample ID: IMI1169-09 Soil 8270C (SIM)-OUT	Sampled: 09/16/03 09:15 09/30/03 09:15	comp of 3 PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: 4 oz Jar (IMI1169-09D) 4 oz Jar (IMI1169-09E) 4 oz Jar (IMI1169-09F)		

Released By

Date

Time

Received By

Date

Time

Released By

Date

Time

Received By

Date

Time

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
Sample Summary Report

WORK ORDER #: 03-09-1217

QAPP: 0000

#	Client Sample ID	Matrix	Date Collected	NoC	Comment
1	IMI1169-01	S	09/16/2003	1	
2	IMI1169-02	S	09/17/2003	1	
3	IMI1169-03	S	09/17/2003	1	
4	IMI1169-04	S	09/17/2003	1	
5	IMI1169-05	S	09/16/2003	1	
6	IMI1169-06	S	09/17/2003	1	
7	IMI1169-07	S	09/16/2003	1	
8	IMI1169-08	S	09/17/2003	1	
9	IMI1169-09	S	09/16/2003	1	#9 is a composite of -10 thru -12.
10	IMI1169-09D	S	09/16/2003	1	
11	IMI1169-09E	S	09/16/2003	1	
12	IMI1169-09F	S	09/16/2003	1	

WORK ORDER #:

03 - 09 - 1217

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Del Mar Analytical

DATE: 9-22-03

TEMPERATURE - SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

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

LABORATORY (Other than Calscience Courier):

- ☐ °C Temperature blank.
4 °C IR thermometer.
☐ Ambient temperature.

Initial: AK

CUSTODY SEAL INTACT:

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

Initial: AK

SAMPLE CONDITION:

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

Initial: AK

COMMENTS:

LABORATORY REPORT

Prepared For: M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project: Building 56 Landfill
 Boeing SSFL

Sampled: 09/15/03
 Received: 09/15/03
 Revised: 12/12/03

NELAP #01108CA

CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain 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 5°C, on ice and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

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 U-flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL INFORMATION: The report was revised to add a data qualifier to the Antimony MSD.

LABORATORY ID

CLIENT ID

MATRIX

IM ID838-01

MT690

Soil

IM ID838-02

MT691

Soil

IM ID838-03

MT692

Soil

IM ID838-04

MT693

Soil

IM ID838-05

MT694

Soil

IM ID838-06

MT695

Water



Del Mar Analytical, Irvine
 Michelle Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0838

Sampled: 09/15/03
 Received: 09/15/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T 690 (IM I0838-01) - Soil EPA 9045C	1	09/15/2003 13:35	09/15/2003 18:00	09/15/2003 20:45	09/15/2003 23:00
Sample ID : M T 691 (IM I0838-02) - Soil EPA 9045C	1	09/15/2003 10:45	09/15/2003 18:00	09/15/2003 20:45	09/15/2003 23:00
Sample ID : M T 692 (IM I0838-03) - Soil EPA 9045C	1	09/15/2003 09:52	09/15/2003 18:00	09/15/2003 20:45	09/15/2003 23:00
Sample ID : M T 693 (IM I0838-04) - Soil EPA 9045C	1	09/15/2003 10:15	09/15/2003 18:00	09/15/2003 20:45	09/15/2003 23:00
Sample ID : M T 694 (IM I0838-05) - Soil EPA 9045C	1	09/15/2003 11:35	09/15/2003 18:00	09/15/2003 20:45	09/15/2003 23:00

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

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

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0838

Sampled: 09/15/03
 Received: 09/15/03

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
M-HA	Due to high levels of analyte in the sample, the M/S/SD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M-NR	No results were reported for the M/S/SD. The sample used for the M/S/SD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
M-2	The MS and/or SD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
R-3	The RPD exceeded the method control limit due to sample matrix effects.
Z-3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NTH library.

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

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

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0838

Sampled: 09/15/03
 Received: 09/15/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8260B	Water	X	X
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

CalScience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM I0838-01, IM I0838-02, IM I0838-03, IM I0838-04, IM I0838-05

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



MONTGOMERY WATSON HARZA

880TMI

Control Number: **COC** *MT 690*

Date 4/15/03 Page 1 of 1

Date: 11/13/03 Page: 1 of 1

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	LAB PICK-UP
Comment:	B56 CANOPIN

[illegible]

	SAMPLING METHOD	EXTRA VOLUME	MS/MSD	HOLD	Total # of Bottles
8260B	X				
VOC	X				
8015BM	X				
TPH	X				
8270CSIM	X				
SVOC	X				
8270C	X				
SVOC	X				
8290	X				
DIOXINS	X				
8315A	X				
FORMALDEHYDE	X				
8330	X				
ORDNANCE	X				
6000/7000	X				
METALS	X				
7196A	X				
HEX CHROMIUM	X				
8082	X				
PCBS	X				
9040B/9045C	X				
pH	X				
340.2	X				
FLUORIDE	X				
300M	X				
ANIONS	X				
300M	X				
HYDRAZINE	X				
300M	X				
PERCHLORATES	X				
SAMPLING METHOD					
EXTRA VOLUME					
MS/MSD					
HOLD					
Total # of Bottles					

For Lab Use		Comments: ANALYZE FOR TOLP/STOL AS NEEDED FOR WASTE CHARACTERIZATION VOC'S SAMPLED WITH ENCORE SAMPLERS
Lab Number:		
Does COC match samples: ☒ Y or ☐ N	Broken container: ☐ Y or ☒ N	
Received within holding time: ☒ Y or ☐ N	COC Seal Intact: ☐ Y or ☐ N	
Any other problems: ☐ Y or ☐ N	If any YES, MWH contacted: ☐ Y or ☐ N	
Date Contacted: 1/1	Temperature °C: 100	

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

Fax: 619-239-3895

Fax No: 949-261-1228

From: Edmund Sarao
sign: Edmund Sarao

Subject: Chain-of-Custody Form Analytical Request Change

No. of Pages: 2
(including cover)

Per Request:

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

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT690	MT695	BLQW12S01	09/08/2003	Change MWH ID from "BLQW12S01" to "BLQW12T01"

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

Thank you.



MWH
MONTGOMERY WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Project Manager: Diana Hambrick
Project Name: Boeing SSFL, 89-018-0113
Project Number: _____
Please reference to the address above as stated in contract

Cooler No.	
QC Level:	
TAT:	NORMAL

Chain of Custody

Control Number: **COC MT 690**
Date **01/15/95** Page **1**

Bill To: Lowell Moffitt
Company: RWH
Address: 200 Madison Avenue, Pasadena, CA 91101-1200

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: *IR-UP*
Comment: *356 CINDIFLU*

[illegible]

Sample Data				Matrix			
Sample ID	Description (for MWH use only)	SPRINT Depth	Depth Feet	Date Collected	Time Collected	ULS Number	Lab ID
MT690	BLS11S02	7.1	10	9/15/03	1335	3	
MT691	BLS05S02	7.1	5		1045	1	
MT692	BLS04S02	7.1	2		0952	20	
MT693	BLS08S02	7.1	2		1015	14	
MT694	BLS10S02	7.1	17		1135	31	
MT695	BLS01S02	7.1			0900		
	BLS12T01						
	Cons 9/17/03						

Samplers Signature:	Date	Time
<i>Braen O'Leary</i>	9/15/03	1300
Relinquished By:		
Received By:		
Relinquished By:		
Received By (LAB):		

For Lab Use	
Lab Number:	Comments:
Does COC match samples: Y or N	ANALYZE FOR TOULP/STUD AS NEEDED FOR WASTE CHARACTERIZATION NO. SAMPLED WITH ENCORE SAMPLERS
Broken container: Y or N	
Received within holding time: Y or N	
COC Seal intact: Y or N	
Any other problems: Y or N	
If any YES, MWH contacted: Y or N	
Date Contacted: / /	
Temperature °C	



CASE NARRATIVE

Client: MWH

Date Sampled: 09/15/03

Project: Building 56 Landfill
Boeing SSFL

Date Received: 09/15/03

Lab: IMI0838

SAMPLE RECEIPT: Samples were received intact on ice and with chain of custody number MT690. The sample temperature was measured at 5°C upon receipt at the laboratory.

HOLDING TIMES: All samples were analyzed within holding times.

PROBLEMS

ENCOUNTERED: No additional problems were encountered during sample analysis.

QA/QC CRITERIA: CADHS/8015 Mod. sample IMI0838-05 required dilution due to the nature of the sample matrix. Because of this dilution, the surrogate "n-Octacosane" spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

There was no MS/MSD reported for CADHS/8015 Mod. QC batch 3I17049. The sample used for the MS/MSD required dilution due to the sample matrix, as a result, the spike compounds were diluted below the detection limit. The batch was accepted based on acceptable recovery in the LCS.

Cadmium, Chromium, Cobalt, Copper, Nickel, and Zinc were detected in the Method Blank of QC batch 3I23070.

Due to high levels of Aluminum in sample IMI0837-01, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3I23070. The batch was accepted based on acceptable recovery in the LCS.

The MS recovery for Boron and the MS/MSD recoveries for Antimony were below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3I23070. The batch was accepted based on acceptable recovery in the LCS.

The MS/MSD RPD for Antimony exceeded the method control limits due to sample matrix effects for EPA 6010B QC batch 3I23070.



CASE NARRATIVE

Client: MWH

Date Sampled: 09/15/03

Project: Building 56 Landfill
Boeing SSFL

Date Received: 09/15/03

Lab: IMI0838

OBSERVATIONS: Results that fall between the MDL and RL are "J" flagged.

Extractable Fuel Hydrocarbons (C8-C30) were quantitated against a Diesel Fuel Standard.

For subcontract analysis:

EPA 8270C (SIM) analysis was performed at Calscience – Garden Grove, CA.

DEL MAR ANALYTICAL

Michele Harper
Michele Harper
Project Manager



October 17, 2003
PM029003

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: Calscience Work Order No.: 03-09-0891
Client Reference: IMI0838

Dear Ms. Harper:

Calscience Environmental Laboratories, Inc. (Calscience) is pleased to submit herewith the subject analytical report. The narrative presented below summarizes our analytical effort and clarifies any quality control anomalies which appear in the report.

Sample Condition on Receipt

Five soil samples were received as part of this Work Order on September 16, 2003. The samples were transferred to the laboratory in an ice chest following strict chain-of-custody procedures. The temperature of the ice chest was measured upon arrival in the laboratory and was within acceptable limits (4°C). The samples were logged into the Laboratory Information Management System (LIMS), given laboratory identification numbers, and stored in refrigeration units pending analysis.

Data Summary

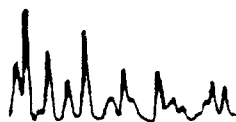
The samples were analyzed for PAHs and NDMA by EPA Method 8270C SIM and dry weight reported.

Holding Times

All holding time requirements were met.

Calibration

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



Blanks

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

Matrix Spikes

Matrix spikes (MS) and matrix spike duplicates (MSD) were performed at required frequencies. All recoveries were within acceptable limits.

Laboratory Control Samples

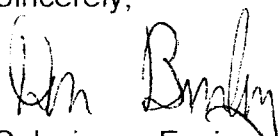
The Laboratory Control Sample (LCS) analyses were performed at the required frequency. All target compound recoveries were within acceptable limits.

Surrogates

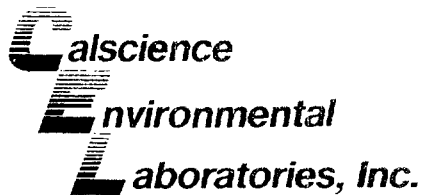
Surrogate recoveries for all samples were within acceptable control limits.

If there are any questions regarding this report, please contact the undersigned at (714) 895-5494.

Sincerely,



Calscience Environmental
Laboratories, Inc.
Don Burley
Project Manager



October 14, 2003

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: **Calscience Work Order No.: 03-09-0891**
Client Reference: **IMI0838**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/16/2003 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Lane".

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

A handwritten signature in black ink, appearing to read "Michael J. Crisostomo".

Michael J. Crisostomo
Quality Assurance Manager

Work Order Number: 03-09-0891

<u>Qualifier</u>	<u>Definition</u>
J	Analyte was detected at a concentration below the reporting limit. Reported value is estimated.
ND	Not detected at indicated reporting limit.

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0838

0891

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:

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

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

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

Analysis	Expiration	Comments
Sample ID: IMI0838-01 Soil 8270C (SIM)-OUT	Sampled: 09/15/03 13:35 09/29/03 13:35	PAH & NDMA,sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI0838-01C)		
Sample ID: IMI0838-02 Soil 8270C (SIM)-OUT	Sampled: 09/15/03 10:45 09/29/03 10:45	PAH & NDMA,sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI0838-02C)		
Sample ID: IMI0838-03 Soil 8270C (SIM)-OUT	Sampled: 09/15/03 09:52 09/29/03 09:52	PAH & NDMA,sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI0838-03C)		
Sample ID: IMI0838-04 Soil 8270C (SIM)-OUT	Sampled: 09/15/03 10:15 09/29/03 10:15	PAH & NDMA,sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI0838-04C)		
Sample ID: IMI0838-05 Soil 8270C (SIM)-OUT	Sampled: 09/15/03 11:35 09/29/03 11:35	PAH & NDMA,sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: Brass Sleeve (IMI0838-05C)		

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

Released By

Date

Time

Received By

Date

Time

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
Sample Summary Report

WORK ORDER #: 03-09-0891

QAPP: 0000

[illegible]

WORK ORDER #:

03 - **09** - **0891**

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: DEL MAR ANALYTICAL

DATE: 9/16/03

TEMPERATURE - SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

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

LABORATORY (Other than Calscience Courier):

- ☐ °C Temperature blank.
4 °C IR thermometer.
☐ Ambient temperature.

Initial: Tn

CUSTODY SEAL INTACT:

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

Initial: Tn

SAMPLE CONDITION:

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

Initial: Tn

COMMENTS:

LABORATORY REPORT

Prepared For: M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project: Building 56 Landfill
Boeing SSFL

Sampled: 09/08/03-09/11/03

Received: 09/12/03

Revised: 10/28/03

NELAP #01108CA

CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 5°C, on ice and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

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 U-flagged. This is a revised report. The report was revised due to the following issues: An RL-1 qualifier was added to the extractable fuel hydrocarbon analysis for sample M T686, IM ID763-23. In addition, the extractable fuel hydrocarbon result for sample M T689, IM ID763-25, was misreported. The sample was initially reported as nondetect with a dilution factor of 100 due to a test code error. The proper result for this sample has been reported. Lastly, the perchlorate results required recalculation. All perchlorate results remained the same with the noted exception of sample M T680, IM ID763-16. The perchlorate result for M T680 changed from 27ug/L to 28ug/L. The batch QC did change for the perchlorate results but all QC results were still within method acceptance limits. Please see the attached CAR, corrective action report, for more details on the revised perchlorate results.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

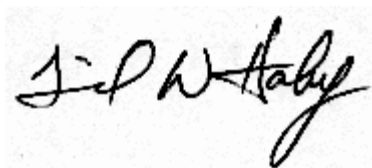
LABORATORY ID	CLIENT ID	MATRIX
IM ID763-01	M T664	Water
IM ID763-02	M T665	Water
IM ID763-03	M T667	Water

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0763

Sampled: 09/08/03-09/11/03
 Received: 09/12/03

LABORATORY ID	CLIENT ID	MATRIX
IM I0763-04	MT668	Water
IM I0763-05	MT669	Water
IM I0763-06	MT670	Water
IM I0763-07	MT671	Water
IM I0763-08	MT672	Water
IM I0763-09	MT673	Water
IM I0763-10	MT674	Water
IM I0763-11	MT675	Water
IM I0763-12	MT676	Water
IM I0763-13	MT677	Water
IM I0763-14	MT678	Water
IM I0763-15	MT679	Water
IM I0763-16	MT680	Water
IM I0763-17	MT681	Water
IM I0763-18	MT682	Water
IM I0763-19	MT683	Water
IM I0763-20	MT684	Water
IM I0763-21	MT685	Soil
IM I0763-22	MT686	Soil
IM I0763-23	MT687	Soil
IM I0763-24	MT688	Soil
IM I0763-25	MT689	Product



Del Mar Analytical, Irvine
 Fred Haley For Michele Harper
 Project Manager



October 27, 2003

Dear Ms. Tucker,

During the data review process, an error in the processing of the perchlorate sample results and associated Quality Control samples was discovered. The calibration curve used to quantitate your sample results was set-up incorrectly. Although all requantitated QC samples are still within acceptance limits (except where noted in the report), the results originally reported have changed as have **some reported sample results**. Corrective action has been implemented to ensure this type of error will not reoccur.

Attached are the following three tables listing the changes that affect your report(s):

- 1) all affected samples and related QC batches
- 2) sample results that changed (if applicable)
- 3) all reported QC data that changed

All reports and the associated raw data have been reissued with the correct perchlorate results. If you have any questions or require further clarification, please do not hesitate to contact the Laboratory Director, Fred Haley or myself at (949) 261-1022.

Sincerely yours,

DEL MAR ANALYTICAL

David C. Dawes
Quality Assurance Manager

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

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0763

Sampled: 09/08/03-09/11/03
 Received: 09/12/03

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
M-HA	Due to high levels of analyte in the sample, the M/S/MD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M1	The M/S and/or MD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The M/S and/or MD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
RL-1	Reporting limit raised due to sample matrix effects.
ZX	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NTH library.

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

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

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM ID763

Sampled: 09/08/03-09/11/03
 Received: 09/12/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 314.0	Water	N/A	X
EPA 3545/8082	Soil	X	X
EPA 3580/8082	Product	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Product	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8260B	Water	X	X

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

Subcontracted Laboratories

Calscience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (STM)

Samples: IM ID763-21, IM ID763-22, IM ID763-23, IM ID763-24, IM ID763-25

Del Mar Analytical, Irvine
 Fred Haley For Michele Harper
 Project Manager



MWH
MONTGOMERY-WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

IMI0763

Chain of Custody

Control Number: COC MT664

Date 9/10/03 Page 1 of 2

Project Manager: Glenn Miller
Project Name: Boring SSFL
Project Number: 1870818-0116
Deliver the results to the address above or as stated in contract

Bill To: Lowell Moffitt
Company: MWH
Address: 460 N. Madison Avenue, Pasadena, CA 91101
300 N. Lake Ave, Suite 1200

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: LAB PICK-UP
Comment: B56LANDFILL

Cooler No. _____
QC Level: _____
TAT: NORMAL

Preservatives

HCL pH < 4	4°C	HCL pH > 4	4°C	H2SO4 pH < 2	4°C	HNO3 pH < 2	4°C	METALS	7196A	HEX CHROMIUM	8082	PCBS	9040B/9045C	PH	340.2	FLUORIDE	300M	ANIONS	300M	HYDRAZINE	300M	PERCHLORATES	300M	Method	Extra Volume	MS/MSD	HOLD	Total # of Bottles

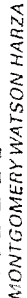
Sample Data						Matrix	
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	U/S Number	Lab ID
MT664	BLLS08S01	7.1		9/10/03	9:00A	4	
MT665	BLLS10S01			9/10/03	10:15	30	
MT667	BLLS07S01		8'	9/10/03	09:55	7	
MT668	BLLS04S01			9/10/03	11:45	49	
MT669	BLLS15S01			9/10/03	11:20	40	
MT670	BLLS02S01			9/8/03	10:49	50	
MT671	BLLS09S01			9/10/03	10:05	6	
MT672	BLLS03S01			9/8/03	11:15		
MT673	BLLS12S01			9/10/03	11:07	44	
MT674	BLLS14S01			9/10/03	11:18	11	
MT675	BLLS11S01			9/10/03	10:40	47	
MT676	BLLS16S01			9/10/03	11:25	42	

Sampler Signature: Brent Glaser Date: 9/11/03 Time: 1500
Relinquished By: Theresa Smith Date: 9/12/03 Time: 1730
Received By: Chad R. Date: 9/12/03 Time: 1230
Relinquished By: [Signature] Date: 9-12-03 Time: 1820
Received By (LAB): [Signature] Date: 9-12-03 Time: 1820

For Lab Use

Lab Number: _____
Does COC match samples: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC Seal Intact: Y or N
Any other problems: Y or N
If any YES, MWH contacted: Y or N
Date Contacted: 9/11
Temperature °C: 5°C

Comments: ANALYZE FOR TOLP AND/OR STEE AS NEEDED FOR HAZARDOUS WASTE CHARACTERIZATION



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: COC MT677
Date 9, 10 103 Page 2 of 2

Date _____

Sample Disposal Instructions: Laboratory Disposal

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: LAB pickup

Comment: B56 LANDEN

Bill To: Lowell Moffitt

THE

Address: 250 W. Modesto Avenue, Pasadena, CA 91101

300 N. LAKE AVE. SUITE 1200
Pasadena, CA, 91101

Cooler No.

QC Level:

TAT:

NORMA

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



MONTGOMERY WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: COCMT689
Date 9 / 10 / 03 Page 3 of 3

Project Manager: Dale Hammer GLENN APPE
Boeing SSFL
Project Name:
Project Number: 1890818.016
Deliver the results to the address above or as stated in contract

Bill To: Lowell Moffitt
Company: MWH
Address: -650 N. Madison Avenue, Pasadena, CA, 91101
300 N. LAKE AVE. SUITE 1200

Cooler No.	
QC Level:	
TAT:	NORMAC

[illegible][illegible][illegible]

Sanders Signature:	Date	Time
<i>Brown</i>	9/11/03	1500
Relinquished By:	Date	Time
<i>Thomas Lynch</i>	9/12/03	1230
Received By:	Date	Time
<i>Bill H</i>	9-12-03	1230
Relinquished By:	Date	Time
<i>Bill H</i>	7-12-03	1820
Received By (LAWY)	Date	Time
<i>at</i>	7-12-03	1820

For Lab Use	
Lab Number: Does COC match samples: ☒ Y or ☐ N Broken container: Y or ☒ N Received within holding time: ☒ Y or ☐ N COC Seal Intact: Y or ☐ N Any other problems: Y or ☐ N If any YES, MWH contacted: Y or ☐ N Date Contacted: <u>1/1</u> Temperature °C <u>5°C</u>	Comments: <i>ANALYZE FOR TOLP AND/OR STCC AS NEEDED FOR WASTE CHARACTERIZATION</i>

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

F A X



1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/17/2003

Tel: 619-699-4124

Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao

sign: Edmund Sarao

Subject: Chain-of-Custody Form Analytical
Request Change

No. of Pages: 2
(including cover)

Per Request:

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

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT677	MT684	BLQW11S01	09/08/2003	Change MWH ID from "BLQW11S01" to "BLQW11T01"

The reason for these changes:

Incorrectly marked on COC form

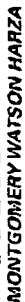
Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

X

Thank you.



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: **COC** *77677* Page **103** of **103**
Date *9/10*

Sample Disposal Instructions: Laboratory Disposed
 Statement Method: LAB Pickup
 Comment: B56 LANDFILL

[illegible][illegible]

For Lab Use		Comments:
Lab Number:		ANALYZE FOR TCLP AND/OR STLC FOR HAZARDOUS WASTE CHARACTERIZATION AS NEEDED
Does COC match samples:	Y or N	
Broken container:	Y or N	
Received within holding time:	Y or N	
COC Seal Intact:	Y or N	
Any other problems:	Y or N	
If any YES, NWH contacted:		Y or N
Data Contacted:		___/___/___
		Temperature °C

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



CASE NARRATIVE

Client: MWH

Date Sampled: 09/08/03 – 09/11/03

Project: Building 56 Landfill Boeing SSFL

Date Received: 09/12/03

Lab: IMI0763

SAMPLE RECEIPT: Samples were received intact on ice and with chain of custody numbers MT664, MT677, and MT689. The sample temperature was measured at 5°C upon receipt at the laboratory.

HOLDING TIMES: All samples were analyzed within holding times.

PROBLEMS

ENCOUNTERED: No additional problems were encountered during sample analysis.

QA/QC CRITERIA: Due to sample matrix effects, the surrogate "n-Octacosane" recovery was outside the acceptance limits for EPA CADHS/8015 Mod. sample IMI0763-25.

The MS recovery for Perchlorate was above acceptance limits due to sample matrix interference for EPA 314.0 QC batch 3I23052. The batch was accepted based on acceptable recovery in the LCS.

Cobalt, Copper, Selenium, and Zinc were detected in the Method Blank of QC batch 3I19100.

Due to high levels of Aluminum in sample IMI0762-01, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3I19100. The batch was accepted based on acceptable recovery in the LCS.

The MS/MSD recoveries for Antimony were below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3I19100. The batch was accepted based on acceptable recovery in the LCS.

OBSERVATIONS: Results that fall between the MDL and RL are "J" flagged.

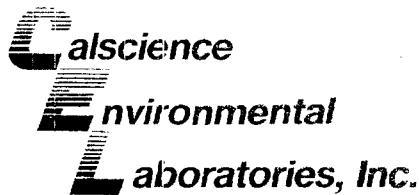
The reporting limit for EPA CADHS/8015 Mod. sample IMI0763-23 was raised due to sample matrix effects.

For subcontract analysis:

EPA 8270C (SIM) analysis was performed at Calscience – Garden Grove, CA.

DEL MAR ANALYTICAL

Michele Harper
Project Manager



October 17, 2003
PM029303

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: Calscience Work Order No.: 03-09-1216
Client Reference: IMI0763

Dear Ms. Harper:

Calscience Environmental Laboratories, Inc. (Calscience) is pleased to submit herewith the subject analytical report. The narrative presented below summarizes our analytical effort and clarifies any quality control anomalies which appear in the report.

Sample Condition on Receipt

One product sample was received as part of this Work Order on September 22, 2003. The sample was transferred to the laboratory in an ice chest following strict chain-of-custody procedures. The temperature of the ice chest was measured upon arrival in the laboratory and was within acceptable limits (4°C). The sample was logged into the Laboratory Information Management System (LIMS), given a laboratory identification number, and stored in a refrigeration unit pending analysis.

Data Summary

The sample was analyzed for PAHs and NDMA by EPA Method 8270C SIM.

Holding Times

All holding time requirements were met.

Calibration

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

A handwritten signature in black ink, appearing to be 'M. Harper', is located at the bottom left of the page.

Blanks

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

Matrix Spikes

Matrix spikes (MS) and matrix spike duplicates (MSD) were performed at required frequencies. All recoveries were within acceptable limits.

Laboratory Control Samples

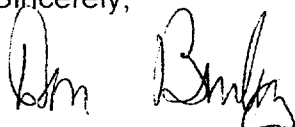
The Laboratory Control Sample (LCS) analyses were performed at the required frequency. All target compound recoveries were within acceptable limits.

Surrogates

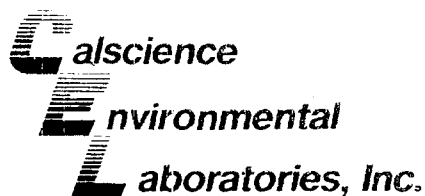
Surrogate recoveries for all samples were within acceptable control limits.

If there are any questions regarding this report, please contact the undersigned at (714) 895-5494.

Sincerely,



Calscience Environmental
Laboratories, Inc.
Don Burley
Project Manager



October 17, 2003

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: **Calscience Work Order No.: 03-09-1216**
Client Reference: **IMI0763**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/22/2003 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Lane".

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

A handwritten signature in black ink, appearing to read "Michael J. Crisostomo".

Michael J. Crisostomo
Quality Assurance Manager

GLOSSARY OF TERMS AND QUALIFIERS

Work Order Number: 03-09-1216

<u>Qualifier</u>	<u>Definition</u>
2	Surrogate spike compound 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.
J	Analyte was detected at a concentration below the reporting limit. Reported value is estimated.
ND	Not detected at indicated reporting limit.



2852 Alton Ave., Irvine, CA 92626 Ph (949) 261-1022 Fax (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 788-3620 Fax (702) 788-3621

SUBCONTRACT ORDER - PROJECT # IMI0763

69-1216

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:

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

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

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

Analysis	Expiration	Comments
Sample ID: IMI0763-21 Soil 8270C (SIM)-OUT	Sampled: 09/11/03 10:20 09/25/03 10:20	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: Brass Sleeve (IMI0763-21B)		
Sample ID: IMI0763-22 Soil 8270C (SIM)-OUT	Sampled: 09/11/03 09:40 09/25/03 09:40	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: Brass Sleeve (IMI0763-22B)		
Sample ID: IMI0763-23 Soil 8270C (SIM)-OUT	Sampled: 09/11/03 09:25 09/25/03 09:25	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: Brass Sleeve (IMI0763-23B)		
Sample ID: IMI0763-24 Soil 8270C (SIM)-OUT	Sampled: 09/11/03 10:40 09/25/03 10:40	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: Brass Sleeve (IMI0763-24B)		
Sample ID: IMI0763-25 Product 8270C (SIM)-OUT	Sampled: 09/11/03 09:30 09/25/03 09:30	add-on 9/18 PAH & NDMA, sub to CalSci, rpt in dry wt, Lvl IV QC
Containers Supplied: 4 oz Jar (IMI0763-25B)		

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: *[Signature]* Date: 9-19-03 Time: 945 Received By: *[Signature]* Date: 9-22-03 Time: 945
Released By: *[Signature]* Date: 9-22-03 Time: 1045 Received By: *[Signature]* Date: 9/22/03 Time: 10:45

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
Sample Summary Report

WORK ORDER #: 03-09-1216

QAPP: 0000

[illegible]

WORK ORDER #:

03 - 09 - 1216

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: DEL TARR ANALYTICAL

DATE: 9/22/03

TEMPERATURE - SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

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

LABORATORY (Other than Calscience Courier):

- ☐ °C Temperature blank.
4 °C IR thermometer.
☐ Ambient temperature.

Initial: Th

CUSTODY SEAL INTACT:

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

Initial: Th

SAMPLE CONDITION:

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

Initial: Th

COMMENTS:

LABORATORY REPORT

Prepared For: M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project: Building 56 Landfill
 Boeing SSFL

Sampled: 09/05/03-09/09/03
 Received: 09/09/03
 Issued: 10/20/03

NELAP #01108CA

CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED : Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID	CLIENT ID	MATRIX
IM I0487-01	MT550	Soil
IM I0487-02	MT551	Soil
IM I0487-03	MT552	Soil
IM I0487-04	MT553	Soil
IM I0487-05	MT554	Soil
IM I0487-06	MT555	Soil
IM I0487-07	MT556	Soil
IM I0487-08	MT557	Soil
IM I0487-09	MT558	Water
IM I0487-10	MT563	Soil
IM I0487-11	MT559	Soil
IM I0487-12	MT560	Soil
IM I0487-13	MT561	Soil
IM I0487-14	MT562	Soil



Del Mar Analytical, Irvine
 Michelle Harper
 Project Manager

M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
Boeing SSFL
Report Number: IM I0487

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

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T550 (IM I0487-01) - Soil EPA 9045C	1	09/08/2003 10:55	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T551 (IM I0487-02) - Soil EPA 9045C	1	09/08/2003 11:08	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T552 (IM I0487-03) - Soil EPA 9045C	1	09/08/2003 11:20	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T553 (IM I0487-04) - Soil EPA 9045C	1	09/08/2003 13:25	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T554 (IM I0487-05) - Soil EPA 9045C	1	09/08/2003 13:40	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T555 (IM I0487-06) - Soil EPA 9045C	1	09/08/2003 13:50	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T556 (IM I0487-07) - Soil EPA 9045C	1	09/08/2003 14:00	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T557 (IM I0487-08) - Soil EPA 9045C	1	09/08/2003 13:25	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T563 (IM I0487-10) - Soil EPA 9045C	1	09/08/2003 08:57	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T559 (IM I0487-11) - Soil EPA 9045C	1	09/05/2003 13:00	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T560 (IM I0487-12) - Soil EPA 9045C	1	09/05/2003 13:40	09/09/2003 18:00	09/10/2003 19:30	09/10/2003 20:30
Sample ID : M T561 (IM I0487-13) - Soil EPA 9045C	1	09/09/2003 08:52	09/09/2003 18:00	09/10/2003 20:30	09/10/2003 21:30
Sample ID : M T562 (IM I0487-14) - Soil EPA 9045C	1	09/09/2003 08:41	09/09/2003 18:00	09/10/2003 20:30	09/10/2003 21:30

Del Mar Analytical, Irvine
Michelle Harper
Project Manager

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

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0487

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

DATA QUALIFIERS AND DEFINITIONS

H3	Sample was received and analyzed past holding time.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
M-HA	Due to high levels of analyte in the sample, the M/S/MD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M1	The MS and/or MD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The MS and/or MD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
RL-1	Reporting limit raised due to sample matrix effects.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library.

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

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

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM ID487

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

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8260B	Water	X	X
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

CalScience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM ID487-01, IM ID487-02, IM ID487-03, IM ID487-04, IM ID487-05, IM ID487-06, IM ID487-07,
 IM ID487-08, IM ID487-10, IM ID487-11, IM ID487-12, IM ID487-13, IM ID487-14

EM S-SUB CA ELAP Cert#1119

117 W. Bellevue Drive - Pasadena, CA 91105

Analysis Performed: Asbestos By PLM

Samples: IM ID487-10, IM ID487-11, IM ID487-12, IM ID487-13, IM ID487-14

Del Mar Analytical, Irvine

Michelle Harper

Project Manager



MONTGOMERY WATSON HARZA

Control Number: **COC** MT550

Date 9/1/81 Page 103 of 2

Deliver the results to the address above or as stated in contract

Company: MWH
Address: 250 N. Madison Avenue, Pasadena, CA 91104

QC Level:

NORMAL

Date _____ Time _____

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

For Lab Use

Lab Number:

Lab Number: _____

Does COC match samples: Y or N

Broken container: Y or N Received within holding time: ☒ Yes or ☐ NoCOC Seal Intact: Y or N

Any other problems: Y or N

any other problems: 5

if any YES, MWH contacted: Y or N

Date Contacted: ___/___/___

Date Contacted: ___/___/___

Comments:

Comments:
ANALYZE FOR TECP AND/OR STC.
FOR HAZARDOUS WASTE
CHARACTERIZATION AS NEEDED

★ VOC'S SAMPLED w/ ENCODE-
SAMPLERS

COMPOSITE AND ANALYZE FOR EACH



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: COC MT 561

Date 9 19 103 Page 2 of 2

Project Manager: ~~Mike Heasbick~~ **GLEN JAFFE**
Project Name: Boeing SFL
Project Number: 1890812.0116
Deliver the results to the address above or as stated in contract

Bill To: Lowell Moffitt
Company: MWH
Address: 3500 H. Madison Avenue, Pasadena, CA, 91101
500 N. LAKE AVE., SUITE 1200

Cooler No.	
QC Level:	
TAT:	NORMAL

[illegible]

Sample Data							U/S Number	Lab ID
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected			
MT561	BLST0501	7.1		9/9/08	0852		BUL	91
MT562	BLST04S01	7.1		9/9/08	0844			
MT563	BLST							

[illegible]

Samplers Signature:	Date	Time
<i>[Signature]</i>	9/9/03	1400
Relinquished By:	Date	Time
<i>[Signature]</i>	9/9/03	1500
Received By:	Date	Time
<i>[Signature]</i>	9-9-03	1500
Relinquished By:	Date	Time
<i>[Signature]</i>	9-9-03	1500
received BY (LAB):	Date	Time
<i>[Signature]</i>	9-9-03	1800

For Lab Use	
Lab Number: _____ Does COC match samples: ☒ Y or ☐ N Broken container: Y or ☒ N Received within holding time: ☒ Y or ☐ N COC Seal intact: Y or ☒ N Any other problems: Y or ☒ N If any YES, MWH contacted: Y or ☐ N Date Contacted: 1/1/_____ Temperature °C 4°C	Comments: ANALYZE FOR TOLP AND/OR STIC FOR HAZARDOUS WASTE CHARACTERIZATION AS NEEDED * COMPOSITE AND ANALYZE FOR BACH

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

F A X



1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/09/2003

Tel: 619-699-4124
Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao
sign: Edmund Sarao

Subject: Chain-of-Custody Form Analytical
Request Change

No. of Pages: 2
(including cover)

Per Request:

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

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT550	MT558	BLST03S01	09/08/2003	Change EPA ID from "MT558" to "MT563"

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

X

Thank you.



MWH
MONTGOMERY WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 558-6310

Chain of Custody

Control Number: **COC**

CS-7104

Date / / Page of 1

Bill To: Lowell Mortini
Company: MWH
Address: 2000 Manhattan Avenue, Pasadena, CA 91101
-00 NITELIVE
1-800-451-1000

Order No.	
Level:	
TAT:	W-K-R-I-A-L

[illegible]

Sample Data							
Sample ID	Description (for MVW use only)	SWMU	Depth	Date Collected	Time Collected	Uls Number	Lab ID
MT550	BLBS 23 S01	7.1	0.5	7/8/04	10:55	51	
MT551	BLBS 24 S01		0.5	7/8/04	11:28	50	
MT552	BLBS 25 S01		0.5	7/8/04	11:20		
MT553	BLBS 26 S01		1		13:25	36	
MT554	BLBS 27 S01		1		13:50	40	
MT555	BLBS 28 S01		1	✓	13:50	38	
MT556	BLBS 27 S01		0.5	7/8/04	11:00	49	
MT557	BLBS 26 S01	✓	1	7/8/04	13:25	36	
MT558	BLRW 16 S01			7/9/04	15:00		
MT559	BLS 03 S01			7/9/04	13:57		
MT560	BLS 02 S01	✓		7/9/04	13:00		
MT561	BLS 01 S01			7/9/04	13:00		
MT562	BLS 02 S01	✓		7/9/04	13:00		

Matrix		Soil	Water	Product
8260B	VOC	X		
8015BM	TPH	X		
8270CSM	SVOC	X		
8270C	SVOC	X		
8280	DIOXINS	X		
8315A	FORMALDEHYDE	X		
8230	ORDNANCE	X		
6000/7000	METALS	X		
7196A	HEX CHROMIUM	X		
8082	PCB9	X		
8040B/9045C	pH	X		
340.2	FLUORIDE	X		
300M	ANIONS	X		
300M	HYDRAZINE	X		
300M	PERCHLORATES	X		
ASX-5 TIS	SAMPLING METHOD	X		
EXTRA VOLUME	MS/MSD	X		
HOLD	TOTAL # of BOTTLES	X		

Lab Number:		Comments:	
Does GOC match samples:	Y or N	ANALYZE AIR TALK AND/OR STO FOR HAZARDOUS WASTE CHARACTERIZATION AS NEEDED * VOC'S SAMPLED W/ ENCORE- SAMPLERS RE COMPOSITE AND ANALYZE FOR	
Broken container:	Y or N		
Received within holding time:	Y or N		
GOC Seal Intact:	Y or N		
Any other problems:	Y or N		
If any YES, NWH contacted:	Y or N		
Data Contacted: / /		Temperature °C	

Fax: 619-239-3895

Fax No: 949-261-1228

From: Sumiko Tanaka

sign:

Subject: Database-change Request

No. of Pages: 2
(including cover)

Per Request: Area I AOC Building 359

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT550	MT550	BLBS23S01	09/08/2003	Cancel Asbestos
MT550	MT551	BLBS24S01	09/08/2003	Cancel Asbestos
MT550	MT552	BLBS25S01	09/08/2003	Cancel Asbestos
MT550	MT553	BLBS26S01	09/08/2003	Cancel Asbestos
MT550	MT554	BLBS27S01	09/08/2003	Cancel Asbestos
MT550	MT555	BLBS28S01	09/08/2003	Cancel Asbestos
MT550	MT556	BLBS29S01	09/08/2003	Cancel Asbestos
MT550	MT557	BLBS26D01	09/08/2003	Cancel Asbestos

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

X

Other: Containers mislabeled

Thank you.



250 N. Madison Avenue
Pasadena, CA 91101
(626) 586-6310

MONTGOMERY WATSON HARZA

Chain of Custody

Control Number: **COC**

Date: **11/11/03** Page: **1** of **2**

Sample Disposal Instructions: **LABORATORY DISPOSAL**
 Shipment Method: **BY AIR**
 Comment: **DO NOT OPEN**

Project Manager: **DAVID HAMBRECHT**
 Project Name: **BEING SSFL**
 Project Number: **11111111**
 Please (the results to the address above or as stated in contract)

Color NO. **2**
 Level: **NK/MAL**

Bill To: **Lowell Moffitt**
 Company: **MWH**
 Address: **20011 Redwood Avenue, Pasadena, CA 91101**
300 N. LARSON AVE

Preservatives: **HCL PH2**
HCL PH2
H2SO4 PH2
HNO3 PH2

Sample ID	Description (for MWH use only)	SWALL	Date Collected	Time Collected	U.S. Number	Lab ID
MT550	BLBS 23 S01	7.1	7/18/03	10:51	51	
MT551	BLBS 24 S01	2.5	7/18/03	11:08	50	
MT552	BLBS 25 S01	2.5	7/18/03	11:20	36	
MT553	BLBS 26 S01	1	7/18/03	11:30	40	
MT554	BLBS 27 S01	1	7/18/03	11:30	48	
MT555	BLBS 28 S01	1	7/18/03	11:00	49	
MT556	BLBS 27 S01	0.5	7/18/03	13:25	36	
MT557	BLBS 26 S01	1	7/18/03	13:25	36	
MT558	BLBS 26 S01	1	7/18/03	13:25	36	
MT559	BLBS 26 S01	1	7/18/03	13:25	36	
MT560	BLBS 26 S01	1	7/18/03	13:25	36	

Signature: **David Hambrecht** Date: **7/11/03** Time: **14:00**
 Signature: **David Hambrecht** Date: **7/11/03** Time: **14:00**
 Signature: **David Hambrecht** Date: **7/11/03** Time: **14:00**
 Signature: **David Hambrecht** Date: **7/11/03** Time: **14:00**
 Signature: **David Hambrecht** Date: **7/11/03** Time: **14:00**
 Signature: **David Hambrecht** Date: **7/11/03** Time: **14:00**

Matrix	Cell	Water	Product
Cell			
Water			
Product			

Lab Number: **11111111**
 Does COC match samples: **Y** or **N**
 Broken containers: **Y** or **N**
 Received within holding time: **Y** or **N**
 COC Seal intact: **Y** or **N**
 Any other problems: **Y** or **N**
 If any YES, MWH contacted: **Y** or **N**
 Date Contacted: **11/11/03**
 Temperature: **20**

For Lab Use
 Comments: **ANALYZE AIR TUP AND/OR STO**
FOR HAZARDOUS WASTE
CHARACTERIZATION AS NEEDED
*** VOC'S SAMPLED W/ ENCORE**
SAMPLERS
FOR COMPOSITE AND ANALYZE FOR
ENCL



CASE NARRATIVE

Client: MWH

Date Sampled: 09/05/03 – 09/09/03

Project: Building 56 Landfill
Boeing SSFL

Date Received: 09/09/03

Lab: IMI0487

SAMPLE RECEIPT: Samples were received intact on ice and with chain of custody numbers MT550 and MT561. The sample temperature was measured at 4°C upon receipt at the laboratory.

HOLDING TIMES: The samples IMI0487-01, -02, -03, -04, -05, -06, -07, -08, -10, -11, and -12 EPA 9045C analysis were received and analyzed past the method specified holding time.

PROBLEMS ENCOUNTERED: No additional problems were encountered during sample analysis.

QA/QC CRITERIA: CADHS/8015 Mod. samples IMI0487-05, and -12 required dilution due to the nature of the sample matrix. Because of this dilution, the surrogate "n-Octacosane" spike concentration in the samples were reduced to a level where the recovery calculation does not provide useful information.

The MS recovery for 1,2-Dichloroethane was above acceptance limits due to sample matrix interference for EPA 5030B/8260B QC batch 3I17030. The batch was accepted based on acceptable recovery in the LCS.

The MS2/MSD2 recovery for Aroclor 1016 was above acceptance limits due to sample matrix interference for EPA 8082 QC batch 3I14002. The batch was accepted based on acceptable recovery in the LCS.

Due to high levels of Tetrachloroethene and Trichloroethene in sample IMI0446-01, the MS/MSD calculation does not provide useful spike recovery information for EPA 5030B/8260B QC batch 3I17030. The batch was accepted based on acceptable recovery in the LCS.

Due to high levels of Aluminum in sample IMI0448-05, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3I16086. The batch was accepted based on acceptable recovery in the LCS.

Boron, Copper, and Zinc were detected in the Method Blank of QC batch 3I16086.

The MS recovery for Boron and the MS/MSD recovery for Antimony were below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3I16086. The batch was accepted based on acceptable recovery in the LCS.



CASE NARRATIVE

Client: MWH

Date Sampled: 09/05/03 – 09/09/03

Project: Building 56 Landfill
Boeing SSFL

Date Received: 09/09/03

Lab: IMI0487

OBSERVATIONS: Results that fall between the MDL and RL are "J" flagged.

The reporting limits for CADHS/8015 Mod. samples IMI0487-05, -11, and -12 were raised due to sample matrix effects.

Extractable Fuel Hydrocarbons (C8-C30) were quantitated against a Diesel Fuel Standard.

For subcontract analysis:

EPA 8270C (SIM) analysis was performed at Calscience – Garden Grove, CA.

Asbestos By PLM analysis was performed at EMS – Pasadena, CA.

DEL MAR ANALYTICAL


Michele Harper
Project Manager

Fax: 619-239-3895

Fax No: 949-261-1228

From: Edmund Sarao
sign: Edmund Sarao

Subject: Chain-of-Custody Form Analytical Request Change

No. of Pages: 2
(including cover)

Per Request:

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

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT550	MT558	BLST03S01	09/08/2003	Change EPA ID from "MT558" to "MT563"

The reason for these changes:

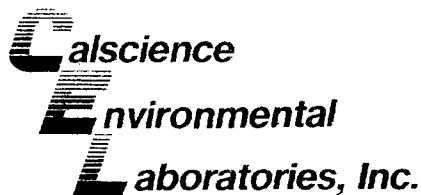
Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

Thank you.



October 09, 2003
PM027103

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: Calscience Work Order No.: 03-09-0617
Client Reference: IMI0487

Dear Ms. Harper:

Calscience Environmental Laboratories, Inc. (Calscience) is pleased to submit herewith the subject analytical report. The narrative presented below summarizes our analytical effort and clarifies any quality control anomalies which appear in the report.

Sample Condition on Receipt

13 soil samples (25 containers) were received as part of this Work Order on September 11, 2003. The samples were transferred to the laboratory in an ice chest following strict chain-of-custody procedures. The temperature of the ice chest was measured upon arrival in the laboratory and was within acceptable limits (2°C). The samples were logged into the Laboratory Information Management System (LIMS), given laboratory identification numbers, and stored in refrigeration units pending analysis.

Data Summary

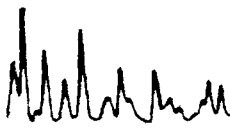
The samples were analyzed for PAHs and NDMA by EPA Method 8270C SIM and dry weight reported.

Holding Times

All holding time requirements were met.

Calibration

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



Blanks

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

Matrix Spikes

Matrix spikes (MS) and matrix spike duplicates (MSD) were performed at required frequencies. All recoveries were within acceptable limits.

Laboratory Control Samples

The Laboratory Control Sample (LCS) analyses were performed at the required frequency. All target compound recoveries were within acceptable limits.

Surrogates

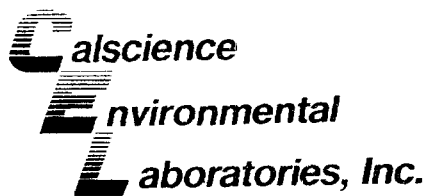
Surrogate recoveries for all samples were within acceptable control limits.

If there are any questions regarding this report, please contact the undersigned at (714) 895-5494.

Sincerely,



Calscience Environmental
Laboratories, Inc.
Don Burley
Project Manager



October 07, 2003

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: **Calscience Work Order No.: 03-09-0617**
Client Reference: IMI0487

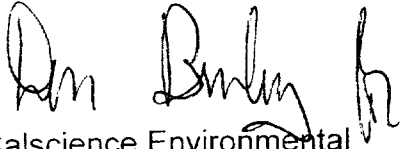
Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/11/2003 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

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

Sincerely,


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



Michael J. Crisostomo
Quality Assurance Manager

Work Order Number: 03-09-0617

<u>Qualifier</u>	<u>Definition</u>
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.
J	Analyte was detected at a concentration below the reporting limit. Reported value is estimated.
ND	Not detected at indicated reporting limit.

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0487

0617

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:

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

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

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

Analysis	Expiration	Comments
Sample ID: IMI0487-01 Soil 8270C (SIM)-OUT	Sampled: 09/08/03 10:55 09/22/03 10:55	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-01C)		
Sample ID: IMI0487-02 Soil 8270C (SIM)-OUT	Sampled: 09/08/03 11:08 09/22/03 11:08	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-02C)		
Sample ID: IMI0487-03 Soil 8270C (SIM)-OUT	Sampled: 09/08/03 11:20 09/22/03 11:20	comp of 2 PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-03E) 2 oz jar (IMI0487-03F)		
Sample ID: IMI0487-04 Soil 8270C (SIM)-OUT	Sampled: 09/08/03 13:25 09/22/03 13:25	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0487-04C)		
Sample ID: IMI0487-05 Soil 8270C (SIM)-OUT	Sampled: 09/08/03 13:40 09/22/03 13:40	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0487-05C)		
Sample ID: IMI0487-06 Soil 8270C (SIM)-OUT	Sampled: 09/08/03 13:50 09/22/03 13:50	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0487-06C)		

Released By

Date

Time

Received By

Date

Time

Released By

Date

Time

Received By

Date

Time

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0487

0617

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:

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

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

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

Analysis	Expiration	Comments
Sample ID: IMI0487-07 Soil 8270C (SIM)-OUT	Sampled: 09/08/03 14:00 09/22/03 14:00	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0487-07C)		
Sample ID: IMI0487-08 Soil 8270C (SIM)-OUT	Sampled: 09/08/03 13:25 09/22/03 13:25	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0487-08C)		
Sample ID: IMI0487-10 Soil 8270C (SIM)-OUT	Sampled: 09/08/03 08:57 09/22/03 08:57	comp of 4 PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-10I) 2 oz jar (IMI0487-10J) 2 oz jar (IMI0487-10K) 2 oz jar (IMI0487-10L)		
Sample ID: IMI0487-11 Soil 8270C (SIM)-OUT	Sampled: 09/05/03 13:00 09/19/03 13:00	comp of 3 PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-11G) 2 oz jar (IMI0487-11H) 2 oz jar (IMI0487-11I)		
Sample ID: IMI0487-12 Soil 8270C (SIM)-OUT	Sampled: 09/05/03 13:40 09/19/03 13:40	comp of 3 PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-12G) 2 oz jar (IMI0487-12H) 2 oz jar (IMI0487-12I)		

Released By

Date

Time

Received By

Date

Time

Released By

Date

Time

Received By

Date

Time

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
Sample Summary Report

WORK ORDER #: 03-09-0617

QAPP: 0000

#	Client Sample ID	Matrix	Date Collected	NoC	Comment
1	IMI0487-01	S	09/08/2003	1	
2	IMI0487-02	S	09/08/2003	1	
3	IMI0487-03	S	09/08/2003	1	COMPOSITE 14 & 15
4	IMI0487-04	S	09/08/2003	1	
5	IMI0487-05	S	09/08/2003	1	
6	IMI0487-06	S	09/08/2003	1	
7	IMI0487-07	S	09/08/2003	1	
8	IMI0487-08	S	09/08/2003	1	
9	IMI0487-10	S	09/08/2003	1	COMPOSITE 16, 17, 18, & 19
10	IMI0487-11	S	09/05/2003	1	COMPOSITE 20, 21, & 22.
11	IMI0487-12	S	09/05/2003	1	COMPOSITE 23, 24, & 25.
12	IMI0487-13	S	09/09/2003	1	COMPOSITE 26, 27, & 28.
13	IMI0487-14	S	09/09/2003	1	COMPOSITE 29, 30, & 31.
14	IMI0487-03E	S	09/08/2003	1	
15	IMI0487-03F	S	09/08/2003	1	
16	IMI0487-10I	S	09/08/2003	1	
17	IMI0487-10J	S	09/08/2003	1	
18	IMI0487-10K	S	09/08/2003	1	
19	IMI0487-10L	S	09/08/2003	1	
20	IMI0487-11G	S	09/05/2003	1	
21	IMI0487-11H	S	09/05/2003	1	
22	IMI0487-11I	S	09/05/2003	1	
23	IMI0487-12G	S	09/05/2003	1	
24	IMI0487-12H	S	09/05/2003	1	
25	IMI0487-12I	S	09/05/2003	1	
26	IMI0487-13G	S	09/09/2003	1	
27	IMI0487-13H	S	09/09/2003	1	
28	IMI0487-13I	S	09/09/2003	1	
29	IMI0487-14G	S	09/09/2003	1	
30	IMI0487-14H	S	09/09/2003	1	
31	IMI0487-14I	S	09/09/2003	1	

WORK ORDER #:

03 - 09 - 0617

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: DEL MAD

DATE: 9/11/03

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.
- 2 °C IR thermometer.
- ☐ Ambient temperature.

Initial: AD

CUSTODY SEAL INTACT:

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

Initial: _____

SAMPLE CONDITION:

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

Initial: AD

COMMENTS:

DATE: October 7, 2003

Page 1 of 6

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

ATTENTION: Michele Harper

REFERENCE: Project ID#IMI0487

REPORT NO: 89810

DATE SAMPLED: 9/9/03 at 8:41 to 13:40

DATE RECEIVED: September 11, 2003

DATE ANALYZED: September 22, 2003

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

The sample(s) were identified as: IMI0487-10(-E, -F, -G, -H), IMI0487-11(-D, -E, -F), IMI0487-12(-D, -E, -F), IMI0487-13(-D, -E, -F), IMI0487-14(-D, -E, -F)

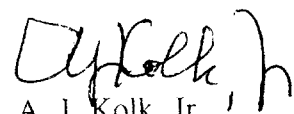
The soil samples were analyzed by polarized light microscopy as described in the "Method for the Determination of Asbestos in Bulk Building Material" (US EPA 600/R-93/116). The samples were dried. Conglomerated material was desegregated by using a rubber mallet in order to not crush the rock fragments,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

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: 89810
CLIENT: Del Mar Analytical
SAMPLE ID: IMI0487-10E to 10H
SIZE RANGE: FINE < 2mm
FRACTION
WEIGHT 201.5 gm

SAMPLE
APPEARANCE BROWN GRANULAR

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

ASBESTOS
PRESENT CHRYSTILE 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 CHRYSTILE= POINT CT 0.58/400
PERCENTAGE
OF 4 PREP

N. D. = NONE DETECTED

ANALYST

Q. C. ANALYST

DATE: October 7, 2003
ATTENTION: Michele Harper

PG. 2 OF 6

SIZE RANGE: COARSE > 2mm
FRACTION
WEIGHT 90.2 gm

SAMPLE
APPEARANCE BROWN GRANULAR

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

ASBESTOS
PRESENT CHRYSTILE TRACE
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 CHRYSTILE= POINT CT 0/400
PERCENTAGE
OF 4 PREP

T= TRACE

DATE

10-18-03

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

N. D. = NONE DETECTED

ANALYST

Q. C. ANALYST

F. Hartman
Carl T. By

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

T= TRACE

DATE

10/13/03

LABORATORY NO: 89810
CLIENT: Del Mar Analytical
SAMPLE ID: IMI0487-13D to 13F
SIZE RANGE: FINE < 2mm
FRACTION
WEIGHT 44.9 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
MICA

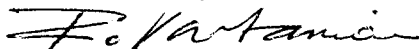
NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE N.D
PERCENTAGE
OF 4 PREP

N. D. = NONE DETECTED

ANALYST

Q. C. ANALYST



DATE: October 7, 2003 PG. 5 OF 6
ATTENTION: Michele Harper

SIZE RANGE: COARSE > 2mm
FRACTION
WEIGHT 27.6 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

T= TRACE

DATE

10-13-03



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

SAMPLE
APPEARANCE BROWN GRANULAR

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

ASBESTOS
PRESENT NONE DETECTED
TYPE & PERCENT

OTHER
FIBROUS CELLULOSE LESS THAN 1%
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE N.D.
PERCENTAGE
OF 4 PREP

N. D. = NONE DETECTED

ANALYST

Q. C. ANALYST

Cal J. J.
F. Vartanian

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 4 PREP
i.e.
MORPHOLOGY

ASBESTOS
PRESENT NONE DETECTED
TYPE & PERCENT

OTHER
FIBROUS CELLULOSE LESS THAN 1%
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE N.D.
PERCENTAGE
OF 4 PREP

T= TRACE

DATE

10-12-03

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0487

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: Level 4 QC. Access 7 EDD.Standard TAT is requested unless specific due date is requested => **Due Date:** _____ **Initials:** _____

Analysis	Expiration	Comments
Sample ID: IMI0487-01 Soil Asbestos By TEM	Sampled: 09/08/03 10:55 09/10/03 10:55	Subcontract to EMS Labs, Level IV QC
Containers Supplied: Brass Sleeve (IMI0487-01B)		
Sample ID: IMI0487-02 Soil Asbestos By TEM	Sampled: 09/08/03 11:08 09/10/03 11:08	Subcontract to EMS Labs, Level IV QC
Containers Supplied: Brass Sleeve (IMI0487-02B)		
Sample ID: IMI0487-03 Soil Asbestos By TEM	Sampled: 09/08/03 11:20 09/10/03 11:20	comp of 2 Subcontract to EMS Labs, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-03C) 2 oz jar (IMI0487-03D)		
Sample ID: IMI0487-04 Soil Asbestos By TEM	Sampled: 09/08/03 13:25 09/10/03 13:25	Subcontract to EMS Labs, Level IV QC
Containers Supplied: Brass Sleeve (IMI0487-04B)		
Sample ID: IMI0487-05 Soil Asbestos By TEM	Sampled: 09/08/03 13:40 09/10/03 13:40	Subcontract to EMS Labs, Level IV QC
Containers Supplied: Brass Sleeve (IMI0487-05B)		
Sample ID: IMI0487-06 Soil Asbestos By TEM	Sampled: 09/08/03 13:50 09/10/03 13:50	Subcontract to EMS Labs, Level IV QC
Containers Supplied: Brass Sleeve (IMI0487-06B)		

Released By	9-11-03	930	Received By	9-11-03	930
	Date	Time		Date	Time
Released By	9-11-03	1150	Received By	9-11-03	11:50 AM
	Date	Time		Date	Time

SUBCONTRACT ORDER**Del Mar Analytical, Irvine****Project ID # IMI0487****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: Level 4 QC. Access 7 EDD.**Standard TAT is requested unless specific due date is requested => Due Date:** _____ **Initials:** _____

Analysis	Expiration	Comments
Sample ID: IMI0487-07 Soil Asbestos By TEM	Sampled: 09/08/03 14:00 09/10/03 14:00	Subcontract to EMS Labs, Level IV QC
Containers Supplied: Brass Sleeve (IMI0487-07B)		
Sample ID: IMI0487-08 Soil Asbestos By TEM	Sampled: 09/08/03 13:25 09/10/03 13:25	Subcontract to EMS Labs, Level IV QC
Containers Supplied: Brass Sleeve (IMI0487-08B)		
Sample ID: IMI0487-10 Soil Asbestos By TEM	Sampled: 09/08/03 08:57 09/10/03 08:57	comp of 4 Subcontract to EMS Labs, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-10E) 2 oz jar (IMI0487-10F) ✓ 2 oz jar (IMI0487-10G) 2 oz jar (IMI0487-10H)		
Sample ID: IMI0487-11 Soil Asbestos By TEM	Sampled: 09/05/03 13:00 09/07/03 13:00	comp of 3 Subcontract to EMS Labs, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-11D) 2 oz jar (IMI0487-11E) 2 oz jar (IMI0487-11F)		
Sample ID: IMI0487-12 Soil Asbestos By TEM	Sampled: 09/05/03 13:40 09/07/03 13:40	comp of 3 Subcontract to EMS Labs, Level IV QC
Containers Supplied: 2 oz jar (IMI0487-12D) 2 oz jar (IMI0487-12E) 2 oz jar (IMI0487-12F)		

Released By	9-11-03	930	Received By	9-11-03	930
	Date	Time		Date	Time
Released By	9-11-03	1150	Received By	09-11-03	11:50 AM
	Date	Time		Date	Time

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0487

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: Level 4 QC. Access 7 EDD.

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

Analysis	Expiration	Comments
Sample ID: IMI0487-13 Soil Asbestos By TEM	Sampled: 09/09/03 08:52 09/11/03 08:52	comp of 3 Subcontract to EMS Labs, Level IV QC

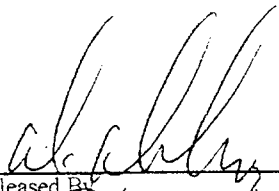
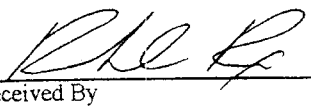
Containers Supplied:

2 oz jar (IMI0487-13D)
2 oz jar (IMI0487-13E)
2 oz jar (IMI0487-13F)

Sample ID: IMI0487-14 Soil Asbestos By TEM	Sampled: 09/09/03 08:41 09/11/03 08:41	comp of 3 Subcontract to EMS Labs, Level IV QC
---	---	---

Containers Supplied:

2 oz jar (IMI0487-14D)
2 oz jar (IMI0487-14E)
2 oz jar (IMI0487-14F)

	9-11-03	930		9-11-03	930
Released By	Date	Time	Received By	Date	Time
	9-11-03	1150		09-11-03	11:50 AM
Released By	Date	Time	Received By	Date	Time

SUBMITTAL FORM Laboratory Services

PAGE 1 OF 1

TURNAROUND TIME: STD ☒ 48 HR. ☐ 24 HR. ☐

<8 HR. ☐ WKND ☐ OTHER: ☐

RELINQUISHED BY Lee Coo attached

TIME / DATE 09-11-02

CLIENT Del Mar Analytical

DATE OF SHIPMENT 09-11-02 CARRIER hand

ADDRESS

CLIENT P.O. NO.

TELEPHONE 449-261-1022

CLIENT JOB/PROJECT ID NO(S).

CONTACT Michelle Harper

PACKAGE SHIPPED FROM

RESULTS REQUESTED VIA VERBAL ☐ FAX ☐

CLIENT FAX NO. 449-261-1778

(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 14

SAMPLER'S NAME

SIGNATURE

PRINTED

TYPE: ☐ WATER ☐ WASTE WATER ☒ SOIL ☐ FILTER ☐ SORBENT TUBE ☐ IMPINGER ☐ OTHER TKN

(FOR EMS ONLY)

EMS Sample No.

CLIENT SAMPLE NO.

DESCRIPTION LOCATION ANALYSIS

VOLUME
TIME WEIGHT
IF APPlicable

89810-11-14

3 MIL 487-01

4. IUI 0487-14

TKN
soils

89810

Laboratory No.

Received By C. J. Burke

Time 12 PM

Date of Package Delivery 09-11-02

Shipping Bill Retained: YES ☐ NONE ☒

Condition of Package on Receipt good

Condition of Custody Seal none

(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 14

Chain-of-Custody Signature CK

Date of Acceptance into Sample Bank 09-11-02

Misc. Info.

Disposition of Samples MS

(SF 5/00)

FOR EMS ONLY

LABORATORY REPORT

Prepared For: M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project: Building 56 Landfill
Boeing SSFL

Sampled: 09/05/03

Received: 09/05/03

Issued: 10/10/03

NELAP #01108CA

CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED : Refer to the last page for specific subcontract laboratory information included with this report.

LABORATORY ID	CLIENT ID	MATRIX
IM I0405-01	MT549	Water
IM I0405-02	MT541	Soil
IM I0405-03	MT542	Soil
IM I0405-04	MT543	Soil
IM I0405-05	MT544	Soil
IM I0405-06	MT545	Soil
IM I0405-07	MT546	Soil
IM I0405-08	MT547	Soil
IM I0405-09	MT548	Soil



Del Mar Analytical, Irvine
Michelle Harper
Project Manager

M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
Boeing SSFL
Report Number: IM I0405

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

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T541 (IM I0405-02) - Soil EPA 9045C	1	09/05/2003 10:45	09/05/2003 18:50	09/09/2003 21:30	09/09/2003 22:30
Sample ID : M T542 (IM I0405-03) - Soil EPA 9045C	1	09/05/2003 10:00	09/05/2003 18:50	09/09/2003 21:30	09/09/2003 22:30
Sample ID : M T543 (IM I0405-04) - Soil EPA 9045C	1	09/05/2003 09:05	09/05/2003 18:50	09/09/2003 21:30	09/09/2003 22:30
Sample ID : M T544 (IM I0405-05) - Soil EPA 9045C	1	09/05/2003 09:20	09/05/2003 18:50	09/09/2003 21:30	09/09/2003 22:30
Sample ID : M T545 (IM I0405-06) - Soil EPA 9045C	1	09/05/2003 10:00	09/05/2003 18:50	09/09/2003 21:30	09/09/2003 22:30
Sample ID : M T546 (IM I0405-07) - Soil EPA 9045C	1	09/05/2003 13:10	09/05/2003 18:50	09/09/2003 21:30	09/09/2003 22:30

Del Mar Analytical, Irvine
Michele Harper
Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0405

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

DATA QUALIFIERS AND DEFINITIONS

J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
L	Laboratory Control Sample recovery was above the method control limits. Analyte not detected, data not impacted.
M-HA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NTH library.

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

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

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM ID405

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

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8260B	Water	X	X
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

Calscience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM ID405-02, IM ID405-03, IM ID405-04, IM ID405-05, IM ID405-06, IM ID405-07

EMS-SUB CA ELAP Cert#1119

117 W. Bellevue Drive - Pasadena, CA 91105

Analysis Performed: Asbestos By PLM

Samples: IM ID405-04

Del Mar Analytical, Irvine

Michelle Harper

Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

304053 I

Control Number: **COC MT 541**

Date 9/105 103 Page 1 of 1

Project Manager: Julio Hambrick - SLEN AFFE
Project Name: Boeing SSFL
Project Number: 1870812-0116
Deliver the results to the address above or as stated in contract

Bill To: Lowell Moffitt
Company: MWH
Address: 250 N. Madison Avenue, Pasadena, CA, 91101
300 N. LAKE AVE. SUITE A 1200

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: LAB PICK-UP
Comment: B56 LANDFILL

Cooler No.	
QC Level:	TAT: <i>NORMAL</i>

Sample Data						
Sample ID	Algal ¹ s Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	U/S Number
MT5409	BEGW09T01	7.1		9/5/03	1500	
MT541	BLTS09S03	7.1	8	9/5/03	1045	
MT542	BLTS14S02	7.1	2	9/5/03	1000	
MT543	BLTS02S02	7.1	2	9/5/03	0705	
MT544	BLTS03S02	7.1	2	9/5/03	0720	
MT545	BLTS14D02	7.1	2	9/5/03	1000	
MT546	BLBS22S01	7.1	2	9/5/03	1310	
MT547	BLBS					
MT547	BLBN01S01	7.1	-	9/4/03	1300	
MT548	BLBN02S01	7.1		9/4/03	1300	

Sappliers Signature:	Date	Time
Brewery blaaz	9/5/03	1500
Relinquished By:	Date	Time
May Schep	9-5-03	1500
Received By:	Date	Time
May Schep	9-5-03	1850
Relinquished By:	Date	Time
Received By (LAB):	Date	Time
W. H. Schep	9-5-03	1450

For Lab Use	
Lab Number:	Comments:
Does COC match samples: ☒ Y or ☐ N	ANALYZE FOR TOLP AND/OR STUD AS NEEDED FOR WASTE CHARACTERIZATION * VOC'S COLLECTED W/ ENCORE SAMPLER
Broken container: ☐ Y or ☒ N	
Received within holding time: ☒ Y or ☐ N	
COC Seal Intact: ☐ Y or ☐ N	
Any other problems: ☐ Y or ☐ N	
If any YES, MWH contacted: ☐ Y or ☐ N	
Date Contacted: <u>1/1</u>	
Temperature °C <u>4°C</u>	

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



1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/08/2003

Tel: 619-699-4124
Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao
sign: Edmund Sarao

Subject: Chain-of-Custody Form Analytical
Request Change

No. of Pages: 2
(including cover)

Per Request:

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

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT541	MT540	BLQW09T01	09/05/2003	Change EPA ID from "MT540" to "MT549" Analyze for VOC (8260B)
MT541	MT545	BLTS14D01	09/05/2003	Change MWH ID from "BLTS14D01" to "BLTS14D02"

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

X

Thank you.



HMM

MONTGOMERY WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: **COC** *MT-541*

Date 11-05-103 Page of

Project Manager: Chris Hambrick 312.461.1355
Project Name: Boeing SSFL
Project Number: 1X10817.0116
Deliver the results to the address above or as stated in contract.

Mail To:	Lowell Moffin
Company:	RWH
Address:	2504 Madison Avenue, Pasadena, CA, 91101

Cooler No.	
QC Level:	TAT: NORMAL

Sample Data						
Sample ID	Description (for MWH use only)	SWRAU	Depth	Date Collected	Time Collected	US Number
9/18/03 gus MT549	BLAQW09T01	7.1		9/15/03	1500	
	BLTS09S03	7.1	8	9/15/03	1345	
	BLTS14S02	7.1	2	9/15/03	1000	
	BLTS02S02	7.1	2	9/15/03	905	
	BLTS03S02	7.1	2	9/15/03	0920	
	BLTS14S02	7.1	2	9/15/03	1000	
	BLBS22S01	7.1	2	9/15/03	1510	
	BLBS					
	BLBN01S01	7.1	-	9/14/03	1300	
	BLBN02S01	7.1		9/14/03	1500	
	BLTS14D02					
	gus 9/18/03					9/15/03

Samplers Signature: <i>Steven Blaz</i>	Date: <i>7/1/93</i>	Time: <i>1500</i>
Relinquished By: <i>[Signature]</i>	Date: <i>7/1/93</i>	Time: <i>1500</i>
Received By: <i>[Signature]</i>	Date:	Time:
Relinquished By:	Date:	Time:
Received By (LAB):	Date:	Time:

Lab Number:	Does COC match samples: Y or N Broken container: Y or N Received within holding time: Y or N COC Seal Intact: Y or N Any other problems: Y or N If any YES, MVH contacted: Y or N Date Contacted: ___/___/___ Temperature °C	Comments: ANALYZE FOR TOLP AND/OR STD AS NEEDED FOR WASTE CHARACTERIZATION * COLLS. COLLECTED W/ ENCORE AMPLER
-------------	---	---

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

F A X



1230 Columbia Street, Suite 750
San Diego, California 92101-8536

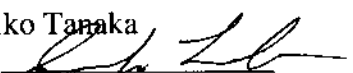
Date: 10/06/2003

Tel: 619-699-4124
Fax: 619-239-3895

To: INTERNAL PURPOSES ONLY

Fax No: 949-261-1228

From: Sumiko Tanaka

sign: 

Subject: Database-change Request

No. of Pages: 2
(including cover)

Per Request: Area I AOC Building 359

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT541	MT541	BLTS09S03	09/05/2003	Cancel Asbestos
MT541	MT542	BLTS14S02	09/05/2003	Cancel Asbestos
MT541	MT544	BLTS03S02	09/05/2003	Cancel Asbestos
MT541	MT545	BLTS14D02	09/05/2003	Cancel Asbestos
MT541	MT546	BLBS22S01	09/05/2003	Cancel Asbestos

The reason for these changes:

Incorrectly marked on COC form _____

Lack of sample volume _____

MWH office personnel require this change _____ **X** _____

Other: Containers mislabeled _____

Thank you.



MONTGOMERY WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: **COC MNT 544**

Date: **11/05/03** Page: **1** of **1**

Project Manager: Glenn Jaffe
Project Name: Boeing SSFL
Project Number: 1816192393895
Deliver the results to the address above or as stated in contract.

Bill To: Lowell McKen
Company: MWH
Address: 250 N. Madison Avenue, Pasadena, CA 91101
300 N. Lake Ave., Suite 1200

Sample Disposal Instructions: Laboratory Disposal
Shipping Method: 1A8 Pick-up
Comment: 1556 LANDFILL

Cooler No.: TAT:
GC Level: NORMAL

Preservatives: HCl, PK2
HNO3, PK2
H2SO4, PK2
FORMALDEHYDE
CHRONANCE
60007000
7156A
HEX CHROMIUM
8082
PCBs
8040B/9045C
DH
3402
FLUORIDE
300M
ANIONS
300M
HYDRAZINE
300M
PERCHLORATES
Sampling
Method
Extra Volume
MS/MSO

Sample Data					Lab ID	
Sample ID	Description (for MWH use only)	SWMU	Date Collected	Time Collected	U.S. Number	
<u>MT540</u>	<u>BLTS09101</u>	<u>7.1</u>	<u>11/5/03</u>	<u>1500</u>		
<u>MT541</u>	<u>BLTS09503</u>	<u>7.1</u>	<u>11/5/03</u>	<u>1345</u>		
<u>MT542</u>	<u>BLTS14102</u>	<u>7.1</u>	<u>11/5/03</u>	<u>1000</u>		
<u>MT543</u>	<u>BLTS02502</u>	<u>7.1</u>	<u>11/5/03</u>	<u>0905</u>		
<u>MT544</u>	<u>BLTS03503</u>	<u>7.1</u>	<u>11/5/03</u>	<u>0920</u>		
<u>MT545</u>	<u>BLTS14102</u>	<u>7.1</u>	<u>11/5/03</u>	<u>1000</u>		
<u>MT546</u>	<u>BLTS22501</u>	<u>7.1</u>	<u>11/5/03</u>	<u>1510</u>		
<u>MT547</u>	<u>BLBN01501</u>	<u>7.1</u>	<u>11/4/03</u>	<u>1300</u>		
<u>MT548</u>	<u>BLBN07501</u>	<u>7.1</u>	<u>11/4/03</u>	<u>1500</u>		
	<u>BLTS14102</u>					

Matrix		Water		Product	
<u>X</u>	<u>8250B</u>	<u>X</u>	<u>VOC</u>	<u>X</u>	<u>8250B</u>
<u>X</u>	<u>8015BM</u>	<u>X</u>	<u>TPH</u>	<u>X</u>	<u>8270CSM</u>
<u>X</u>	<u>8270CSM</u>	<u>X</u>	<u>SVOC</u>	<u>X</u>	<u>8270C</u>
<u>X</u>	<u>SVOC</u>	<u>X</u>	<u>DIOXINS</u>	<u>X</u>	<u>B315A</u>
<u>X</u>	<u>FORMALDEHYDE</u>	<u>X</u>	<u>CHRONANCE</u>	<u>X</u>	<u>60007000</u>
<u>X</u>	<u>7156A</u>	<u>X</u>	<u>HEX CHROMIUM</u>	<u>X</u>	<u>8082</u>
<u>X</u>	<u>PCBs</u>	<u>X</u>	<u>8040B/9045C</u>	<u>X</u>	<u>DH</u>
<u>X</u>	<u>3402</u>	<u>X</u>	<u>FLUORIDE</u>	<u>X</u>	<u>300M</u>
<u>X</u>	<u>ANIONS</u>	<u>X</u>	<u>300M</u>	<u>X</u>	<u>HYDRAZINE</u>
<u>X</u>	<u>300M</u>	<u>X</u>	<u>PERCHLORATES</u>	<u>X</u>	<u>Sampling</u>
<u>X</u>	<u>Method</u>	<u>X</u>	<u>Extra Volume</u>	<u>X</u>	<u>MS/MSO</u>

Samplers Signature: [Signature] Date: 11/5/03 Time: 1500
Relinquished By: [Signature] Date: 11/5/03 Time: 1500
Received By: [Signature] Date: 11/5/03 Time: 1500
Relinquished By: [Signature] Date: 11/5/03 Time: 1500
Received By (LAB): [Signature] Date: 11/5/03 Time: 1500

Lab Number: 1556
Comments: ANALYZE FOR TOLP AND/OR
STUD AS NEEDED FOR
WASTE CHARACTERIZATION
* 1556 REQUESTED W/
ENCORE ANALYSE
Does COC match sampled: Y or N
Broken container: Y or N
Received within holding time: Y or N
COC Seal Intact: Y or N
Any other problems: Y or N
If any YES, MWH contacted: Y or N
Date Contacted: 11/5/03
Temperature: 1500

CASE NARRATIVE

Client: MWH

Date Sampled: 09/05/03

Project: Building 56 Landfill Boeing SSFL

Date Received: 09/05/03

Lab: IMI0405

SAMPLE RECEIPT: Samples were received intact on ice and with chain of custody documentation. The sample temperature was measured at 4°C upon receipt at the laboratory.

HOLDING TIMES: All samples were analyzed within holding times.

PROBLEMS

ENCOUNTERED: No additional problems were encountered during sample analysis.

QA/QC CRITERIA: The Laboratory Control Sample Duplicate recovery for Isopropylbenzene was above the method control limit for EPA 5035/8260B QC batch 3I11006. The analyte was not detected in the samples, therefore, the data was not impacted.

EPA 3545/8082 sample IMI0405-04 required dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Due to high levels of Aluminum in sample IMI0659-04, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3I12068. The batch was accepted based on acceptable recovery in the LCS.

Due to high levels of Aluminum in sample IMI0405-04, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3I12092. The batch was accepted based on acceptable recovery in the LCS.

The MS/MSD recoveries for Antimony were below acceptance limits due to sample matrix interference for EPA 6010B QC batches 3I12068 and 3I12092. The batches were accepted based on acceptable recoveries in the LCS.

Cobalt, Copper, and Zinc were detected in the Method Blank of QC batch 3I12068.

Copper and Zinc were detected in the Method Blank of QC batch 3I12092.



CASE NARRATIVE

Client: MWH

Date Sampled: 09/05/03

Project: Building 56 Landfill Boeing SSFL

Date Received: 09/05/03

Lab: IMI0405

OBSERVATIONS: Results that fall between the MDL and RL are "J" flagged.

Extractable Fuel Hydrocarbons (C8-C30) was quantitated against a Diesel Fuel Standard.

For subcontract analysis:

EPA 8270C (SIM) analysis was performed at Calscience – Garden Grove, CA.

Asbestos By PLM analysis was performed at EMS – Pasadena, CA.

DEL MAR ANALYTICAL


Michele Harper
Project Manager

F A X



MWH

1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/08/2003

Tel: 619-699-4124
Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao

sign: Edmund Sarao

Subject: Chain-of-Custody Form Analytical
Request Change

No. of Pages: 2
(including cover)

Per Request:

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

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT541	MT540	BLQW09T01	09/05/2003	Change EPA ID from "MT540" to "MT549" Analyze for VOC (8260B)
MT541	MT545	BLTS14D01	09/05/2003	Change MWH ID from "BLTS14D01" to "BLTS14D02"

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

X

Thank you.



MWH
MONTGOMERY WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Project Manager: Glenn Hunsicker GLENN HUNSECKER
 Project Name: Boeing SSFL
 Project Number: 1870877-016
 Deliver the results to the address above or as stated in contract.

Coaster No.	
QC Level:	
TAT:	NORMAL

Chain of Custody

Control Number: COC MT 541

Bill To:	Lowell Moffitt
Company:	MWH
Address:	3000 N. LAKEVIEW, 4TH FLOOR SANTA MONICA, CALIF. 90405

Date	11/05/03	Page	01
Sample Disposal Instructions:	Laboratory Disposal		
Shipment Method:	AIR PICK-UP		
Comments:	356 LAMNIF11		

Sample Data					Matrix		
Sample ID	Description (for MWH use only)	SWAU	Depth	Date Collected	Time Collected	U.S. Number	Lab ID
11/103	BL3W09101	7.1	8	9/5/03	1500		
MT549	BL3O9503	7.1	8	9/5/03	1500		
MT542	BL314502	7.1	2	9/5/03	1500		
MT543	BL302502	7.1	2	9/5/03	1500		
MT549	BL303502	7.1	2	9/5/03	1500		
MT545	BL314001	7.1	2	9/5/03	1500		
MT546	BL322501	7.1	2	9/5/03	1510		
MT547	BL301501	7.1	-	9/4/03	1500		
MT548	BL302501	7.1		9/4/03	1500		
	BL314002						

8/5 9/5/03

Sampler's Signature: <i>[Signature]</i>	Date 9/1/80	Time 10:00
Relinquished By: <i>[Signature]</i>	Date 9/5/80	Time 1500
Received By: <i>[Signature]</i>	Date	Time
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use

Comments:

Does COC match samples: Y or N

Broken container: Y or N

Received within holding time. Y 27

CAC Seal/Intact: Y or N

Any other problems: Y or N

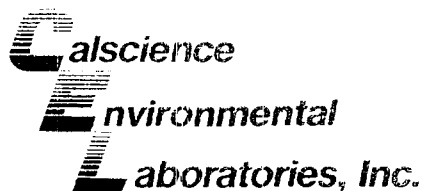
any VER BIVH collected.

Data Center for...

2. The model

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

7



October 09, 2003
PM027003

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: Calscience Work Order No.: 03-09-0504
Client Reference: IMI0405

Dear Ms. Harper:

Calscience Environmental Laboratories, Inc. (Calscience) is pleased to submit herewith the subject analytical report. The narrative presented below summarizes our analytical effort and clarifies any quality control anomalies which appear in the report.

Sample Condition on Receipt

Six soil samples were received as part of this Work Order on September 10, 2003. The samples were transferred to the laboratory in an ice chest following strict chain-of-custody procedures. The temperature of the ice chest was measured upon arrival in the laboratory and was within acceptable limits (6°C). The samples were logged into the Laboratory Information Management System (LIMS), given laboratory identification numbers, and stored in refrigeration units pending analysis.

Data Summary

The samples were analyzed for PAHs and NDMA by EPA Method 8270C SIM and dry weight reported.

Holding Times

All holding time requirements were met.

Calibration

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

2353



Blanks

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

Matrix Spikes

Matrix spikes (MS) and matrix spike duplicates (MSD) were performed at required frequencies. All recoveries were within acceptable limits.

Laboratory Control Samples

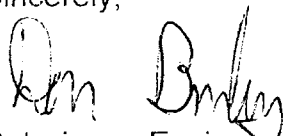
The Laboratory Control Sample (LCS) analyses were performed at the required frequency. All target compound recoveries were within acceptable limits.

Surrogates

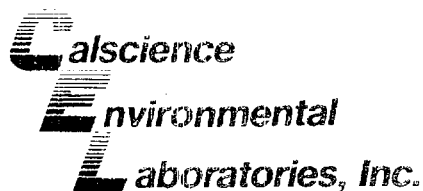
Surrogate recoveries for all samples were within acceptable control limits.

If there are any questions regarding this report, please contact the undersigned at (714) 895-5494.

Sincerely,



Calscience Environmental
Laboratories, Inc.
Don Burley
Project Manager



October 02, 2003

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: **Calscience Work Order No.: 03-09-0504**
Client Reference: IMI0405

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/10/2003 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Lane", written over a horizontal line.

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

A handwritten signature in black ink, appearing to read "Michael J. Crisostomo", written over a horizontal line.

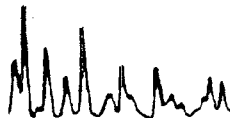
Michael J. Crisostomo
Quality Assurance Manager

2355

A handwritten signature in black ink, appearing to read "Michael J. Crisostomo", written over a horizontal line.

Work Order Number: 03-09-0504

<u>Qualifier</u>	<u>Definition</u>
J	Analyte was detected at a concentration below the reporting limit. Reported value is estimated.
ND	Not detected at indicated reporting limit.



SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0405

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:

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

09-0504

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

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

Analysis	Expiration	Comments
Sample ID: IMI0405-02 Soil 8270C (SIM)-OUT	Sampled: 09/05/03 10:45 09/19/03 10:45	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0405-02C)		
Sample ID: IMI0405-03 Soil 8270C (SIM)-OUT	Sampled: 09/05/03 10:00 09/19/03 10:00	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0405-03C)		
Sample ID: IMI0405-04 Soil 8270C (SIM)-OUT	Sampled: 09/05/03 09:05 09/19/03 09:05	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0405-04C)		
Sample ID: IMI0405-05 Soil 8270C (SIM)-OUT	Sampled: 09/05/03 09:20 09/19/03 09:20	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0405-05C)		
Sample ID: IMI0405-06 Soil 8270C (SIM)-OUT	Sampled: 09/05/03 10:00 09/19/03 10:00	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0405-06C)		
Sample ID: IMI0405-07 Soil 8270C (SIM)-OUT	Sampled: 09/05/03 13:10 09/19/03 13:10	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0405-07C)		

Released By	K. Dwyer	9-10-03	9:30	Received By	Rub. Hernandez	9-10-03	9:30	2367
Released By	Rub. Hernandez	9-10-03	10:35	Received By	Ally. Hernandez	9-10-03	10:35	

Sample Summary Report

WORK ORDER #: 03-09-0504

QAPP: 0000

WORK ORDER #:

03 - 09 - 0504

Cooler 0 of 0

SAMPLE RECEIPT FORM

CLIENT: Del Mar Analytical

DATE: 9-10-03

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.
☒ °C IR thermometer.
☐ Ambient temperature.

Initial: AK

CUSTODY SEAL INTACT:

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

Initial: AK

SAMPLE CONDITION:

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

Initial: AK

COMMENTS:

LABORATORY REPORT

Prepared For: M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project: Building 56 Landfill
 Boeing SSFL

Sampled: 09/04/03
 Received: 09/04/03
 Issued: 10/10/03

NELAP #01108CA CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.
 This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED : Refer to the last page for specific subcontract laboratory information included with this report.

LABORATORY ID	CLIENT ID	MATRIX
IM I0247-01	MT533	Water
IM I0247-02	MT534	Soil
IM I0247-03	MT535	Soil
IM I0247-04	MT536	Soil
IM I0247-05	MT537	Soil
IM I0247-06	MT538	Soil
IM I0247-07	MT539	Soil
IM I0247-08	MT540	Soil



Del Mar Analytical, Irvine
 Michelle Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0247

Sampled: 09/04/03
 Received: 09/04/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T534 (IM I0247-02) - Soil EPA 9045C	1	09/04/2003 11:30	09/04/2003 17:58	09/05/2003 20:30	09/05/2003 21:30
Sample ID : M T535 (IM I0247-03) - Soil EPA 9045C	1	09/04/2003 11:45	09/04/2003 17:58	09/05/2003 20:30	09/05/2003 21:30
Sample ID : M T536 (IM I0247-04) - Soil EPA 9045C	1	09/04/2003 13:00	09/04/2003 17:58	09/05/2003 20:30	09/05/2003 21:30
Sample ID : M T537 (IM I0247-05) - Soil EPA 9045C	1	09/04/2003 13:10	09/04/2003 17:58	09/05/2003 20:30	09/05/2003 21:30
Sample ID : M T538 (IM I0247-06) - Soil EPA 9045C	1	09/04/2003 13:25	09/04/2003 17:58	09/05/2003 20:30	09/05/2003 21:30
Sample ID : M T539 (IM I0247-07) - Soil EPA 9045C	1	09/04/2003 09:30	09/04/2003 17:58	09/05/2003 20:30	09/05/2003 21:30
Sample ID : M T540 (IM I0247-08) - Soil EPA 9045C	1	09/04/2003 10:00	09/04/2003 17:58	09/05/2003 20:30	09/05/2003 22:05

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0247

Sampled: 09/04/03
 Received: 09/04/03

DATA QUALIFIERS AND DEFINITIONS

B Analyte was detected in the associated Method Blank.
 J Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
 M-HA Due to high levels of analyte in the sample, the M/S/MD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
 M1 The MS and/or MD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
 M2 The MS and/or MD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
 ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
 RPD Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NTH library.

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

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

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0247

Sampled: 09/04/03
 Received: 09/04/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8260B	Water	X	X
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

CalScience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM I0247-02, IM I0247-03, IM I0247-04, IM I0247-05, IM I0247-06, IM I0247-07, IM I0247-08

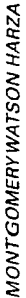
EMS-SUB CA ELAP Cert#1119

117 W. Bellevue Drive - Pasadena, CA 91105

Analysis Performed: Asbestos By PLM

Samples: IM I0247-02, IM I0247-03, IM I0247-04, IM I0247-05, IM I0247-06

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Unit 0247

Control Number: COC MT533

Date 9, 4, 1903 Page i of i

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: LAB PICK-UP
Comment: BSE LANDFILL

Lab Number: _____ Does COC match samples: ☒ or N Broken container: Y or ☒ N Received within holding time: ☒ or N COC Seal Intact: Y or N Any other problems: Y or N if any YES, MWH contacted: Y or N Date Contacted: 1/1/____ Temperature °C 10 °C	Comments: AS NEEDED SAMPLE ANALYZE FOR TELP AND/OR GUC FOR WASTE CHARACTERIZATION * COMPOSITE AND ANALYZE FORBIE AS 1 SAMPLE * VOL'S COLLECTED W/ ENCORE SAMPLE
--	--

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

F A X



1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/08/2003

Tel: 619-699-4124
Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao
sign: Edmund Sarao

Subject: Chain-of-Custody Form Analytical
Request Change

No. of Pages: 2
(including cover)

Per Request:

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

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT541	MT540	BLQW09T01	09/05/2003	Change EPA ID from "MT540" to "MT549" Analyze for VOC (8260B)
MT541	MT545	BLTS14D01	09/05/2003	Change MWH ID from "BLTS14D01" to "BLTS14D02"

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

 X

Thank you.



HMM

MONTGOMERY WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: **COC** 175-144

Date 11-05-10 Page 3 of 3

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: (AR Pick up)

Comment: CC - A - 10-5-5

Project Manager: Glenn Handlick GLENN HANDLICK
Project Name: Boeing SSFL
Project Number: 1X70817-0116
Deliver the results to the address above or as stated in contract.

Cooler No.	
QC Level:	TAT:
	NORMAL

Sample Data						
Sample ID	Description (for MWH use only)	SWRAU	Depth	Date Collected	Time Collected	US Number
9/18/03 gus MT549	BLAQ09T01	7.1		9/15/03	1500	
	BLTS09S03	7.1	8	9/15/03	1245	
	BLTS14S02	7.1	2	9/15/03	1000	
	BLTS02S02	7.1	2	9/15/03	0905	
	BLTS03S02	7.1	2	9/15/03	0920	
	BLTS14S02	7.1	2	9/15/03	1000	
	BLBS22S01	7.1	2	9/15/03	1510	
	BLBS					
	BLBN01S01	7.1	-	9/14/03	1300	
	BLBN02S01	7.1		9/14/03	1500	
	BLTS14D02					
	gus 9/18/03					9/15/03

Sample's Signature:	Date	Time
<i>Ernest Sloan</i>	<i>7/2/79</i>	<i>9:00</i>
Relinquished By:	Date	Time
<i>[Signature]</i>	<i>7/2/79</i>	<i>1:50</i>
Received By:	Date	Time
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

For Lab Use	
Lab Number: _____ Does COC match samples: Y or N Broken container: Y or N Received within holding time: Y or N COC Seal Intact: Y or N Any other problems: Y or N If any YES, MWH contacted: Y or N Date Contacted: ____/____/____ Temperature °C _____	Comments: ANALYZE FOR TCUP AND/OR STUD AS NEEDED FOR WASTE CHARACTERIZATION ✓ COLLECTED W/ ENCORE AMPLER

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

F A X



MWH

1230 Columbia Street, Suite 750
San Diego, California 92101-8536

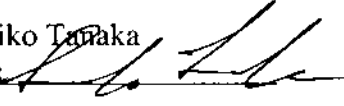
Date: 10/06/2003

Tel: 619-699-4124
Fax: 619-239-3895

To: INTERNAL PURPOSE ONLY

Fax No: 949-261-1228

From: Sumiko Tanaka

sign: 

Subject: Database-change Request

No. of Pages: 2
(including cover)

Per Request: Area I AOC Building 359

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) and Method (s) Now Requested
MT533	MT539	BLTS36S01	09/04/2003	Cancel Asbestos
MT533	MT540	BLTS37S01	09/04/2003	Cancel Asbestos

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

X

Thank you.

Control Number: **COC** *MT-32*

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: *air*
Comment: *to WLC*

[illegible]

For Lab Use	
Lab Number:	Contents: <u>ANALYTIC FOR</u> <u>NEW YORK</u> <u>INFORMATION</u> <u>ANALYZE</u> <u>AS SAMPLE</u> <u>* COMPOSITE AND ANALYZE</u> <u>AS SAMPLE</u> <u>* VOC'S COLLECTED IN ENCORE ANALYTIC</u>
Does COC match samples: Y or N	
Broken container: Y or N	
Received within handling time: Y or N	
COC Seal intact: Y or N	
Any other problems: Y or N	
If any YES, MWM contacted: Y or N	
Date Contacted: <u>1/1</u>	
temperature °C	



CASE NARRATIVE

Client: MWH

Date Sampled: 09/04/03

Project: Building 56 Landfill Boeing SSFL

Date Received: 09/04/03

Lab: IMI0247

SAMPLE RECEIPT: Samples were received intact and with chain of custody number MT533.
The sample temperature was measured at 6°C upon receipt at the laboratory.

HOLDING TIMES: All samples were analyzed within holding times.

PROBLEMS

ENCOUNTERED: No additional problems were encountered during sample analysis.

QA/QC CRITERIA: The MS/MSD recovery for EFH (C8-C30) was below acceptance limits due to sample matrix interference for EPA 8015 Mod. QC batch 3I09044. The batch was accepted based on acceptable recovery in the LCS.

The MS/MSD recovery for Antimony was below acceptance limits due sample matrix interference for EPA 6010B QC batches 3I10080 and 3I11093. The batch was accepted based on acceptable recovery in the LCS.

The MS/MSD recovery for Aroclor 1260 was above acceptance limits due to sample matrix interference for EPA 8082 QC batch 3I05054. The batch was accepted based on acceptable recovery in the LCS.

EFH (C8-C30) was detected in the Method Blank of QC batch 3I09044.

Beryllium, Cadmium, Chromium, Cobalt, Copper, Nickel, Selenium, and Zinc were detected in the Method Blank of QC batch 3I10080.

Cobalt, Copper, and Zinc were detected in the Method Blank of QC batch 3I11093.

Due to high levels of Aluminum in sample IMI0209-03, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3I10080. The batch was accepted based on acceptable recovery in the LCS.

Due to high levels of Aluminum in sample IMH1424-03, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3I11093. The batch was accepted based on acceptable recovery in the LCS.



CASE NARRATIVE

Client: MWH

Date Sampled: 09/04/03

Project: Building 56 Landfill Boeing SSFL

Date Received: 09/04/03

Lab: IMI0247

OBSERVATIONS: Results that fall between the MDL and RL are "J" flagged.

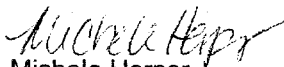
Extractable Fuel Hydrocarbons (C8-C30) were quantitated against a Diesel Fuel Standard.

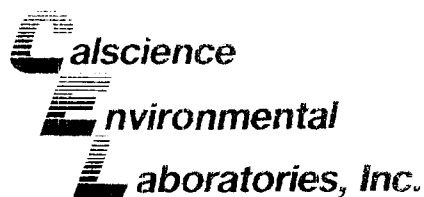
For subcontract analysis:

EPA 8270C (SIM) analysis was performed at Calscience – Garden Grove, CA.

Asbestos By PLM analysis was performed at EMS – Pasadena, CA.

DEL MAR ANALYTICAL


Michele Harper
Project Manager



October 09, 2003
PM026903

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: Calscience Work Order No.: 03-09-0355
Client Reference: IMI0247

Dear Ms. Harper:

Calscience Environmental Laboratories, Inc. (Calscience) is pleased to submit herewith the subject analytical report. The narrative presented below summarizes our analytical effort and clarifies any quality control anomalies which appear in the report.

Sample Condition on Receipt

Seven soil samples (29 containers) were received as part of this Work Order on September 8, 2003. The samples were transferred to the laboratory in an ice chest following strict chain-of-custody procedures. The temperature of the ice chest was measured upon arrival in the laboratory and was within acceptable limits (4°C). The samples were logged into the Laboratory Information Management System (LIMS), given laboratory identification numbers, and stored in refrigeration units pending analysis.

Data Summary

The samples were analyzed for PAHs and NDMA by EPA Method 8270C SIM and dry weight reported.

Holding Times

All holding time requirements were met.

Calibration

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

A handwritten signature in black ink, appearing to be 'M. Harper', is located at the bottom left of the page.

Blanks

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

Matrix Spikes

Matrix spikes (MS) and matrix spike duplicates (MSD) were performed at required frequencies. All recoveries were within acceptable limits.

Laboratory Control Samples

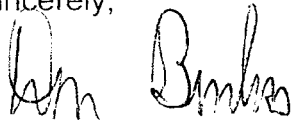
The Laboratory Control Sample (LCS) analyses were performed at the required frequency. All target compound recoveries were within acceptable limits.

Surrogates

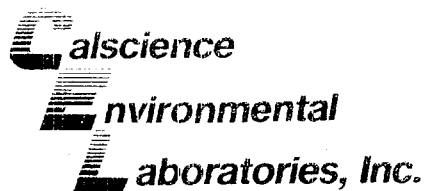
Surrogate recoveries for all samples were within acceptable control limits.

If there are any questions regarding this report, please contact the undersigned at (714) 895-5494.

Sincerely,



Calscience Environmental
Laboratories, Inc.
Don Burley
Project Manager



October 01, 2003

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: **Calscience Work Order No.: 03-09-0355**
Client Reference: IMI0247

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/8/2003 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 Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Lane".

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

A handwritten signature in black ink, appearing to read "Michael J. Crisostomo".

Michael J. Crisostomo
Quality Assurance Manager

A handwritten signature in black ink, appearing to read "Michael J. Crisostomo".

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0247

03 09 - 0395

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:

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

Work Order Comments: Perchlorate RI=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: IMI0247-02 Soil	Sampled: 09/04/03 11:30	comp of 6
8270C (SIM)-OUT	09/18/03 11:30	PAH & NDMA, sub to Calscience, Level IV QC

Containers Supplied:

2 oz jar (IMI0247-02G)
2 oz jar (IMI0247-02H)
2 oz jar (IMI0247-02I)
2 oz jar (IMI0247-02J)
2 oz jar (IMI0247-02K)
2 oz jar (IMI0247-02L)

Sample ID: IMI0247-03 Soil	Sampled: 09/04/03 11:45	comp of 6
8270C (SIM)-OUT	09/18/03 11:45	PAH & NDMA, sub to Calscience, Level IV QC

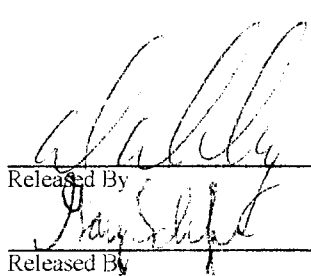
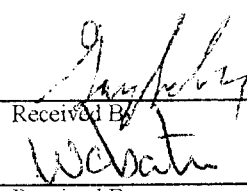
Containers Supplied:

2 oz jar (IMI0247-03G)
2 oz jar (IMI0247-03H)
2 oz jar (IMI0247-03I)
2 oz jar (IMI0247-03J)
2 oz jar (IMI0247-03K)
2 oz jar (IMI0247-03L)

Sample ID: IMI0247-04 Soil	Sampled: 09/04/03 13:00	comp of 6
8270C (SIM)-OUT	09/18/03 13:00	PAH & NDMA, sub to Calscience, Level IV QC

Containers Supplied:

2 oz jar (IMI0247-04G)
2 oz jar (IMI0247-04H)
2 oz jar (IMI0247-04I)
2 oz jar (IMI0247-04J)
2 oz jar (IMI0247-04K)
2 oz jar (IMI0247-04L)

Released By 	Date 9-8-03	Time 9:10	Received By 	Date 9-8-03	Time 9:10
Released By	Date 9-8-03	Time 9:55	Received By	Date 9/8/03	Time 9:55

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0247

03-09-0355

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:

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

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

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

Analysis	Expiration	Comments
Sample ID: IMI0247-05 Soil Sampled: 09/04/03 13:10		
8270C (SIM)-OUT	09/18/03 13:10	comp of 5 PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied:		
2 oz jar (IMI0247-05F)		
2 oz jar (IMI0247-05G)		
2 oz jar (IMI0247-05H)		
2 oz jar (IMI0247-05I)		
2 oz jar (IMI0247-05J)		
Sample ID: IMI0247-06 Soil Sampled: 09/04/03 13:25		
8270C (SIM)-OUT	09/18/03 13:25	comp of 2 PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied:		
2 oz jar (IMI0247-06C)		
2 oz jar (IMI0247-06D)		
Sample ID: IMI0247-07 Soil Sampled: 09/04/03 09:30		
8270C (SIM)-OUT	09/18/03 09:30	comp of 2 PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied:		
2 oz jar (IMI0247-07C)		
2 oz jar (IMI0247-07D)		
Sample ID: IMI0247-08 Soil Sampled: 09/04/03 10:00		
8270C (SIM)-OUT	09/18/03 10:00	comp of 2 PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied:		
2 oz jar (IMI0247-08C)		
2 oz jar (IMI0247-08D)		

Released By

Date

Time

Received By

Date

Time

Released By

Date

Time

Received By

Date

Time

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
Sample Summary Report

WORK ORDER #: 03-09-0355

QAPP: 0000

#	Client Sample ID	Matrix	Date Collected	NoC	Comment
1	IMI0247-02G	S	09/04/2003	1	
2	IMI0247-02H	S	09/04/2003	1	
3	IMI0247-02I	S	09/04/2003	1	
4	IMI0247-02J	S	09/04/2003	1	
5	IMI0247-02K	S	09/04/2003	1	
6	IMI0247-02L	S	09/04/2003	1	
7	IMI0247-03G	S	09/04/2003	1	
8	IMI0247-03H	S	09/04/2003	1	
9	IMI0247-03I	S	09/04/2003	1	
10	IMI0247-03J	S	09/04/2003	1	
11	IMI0247-03K	S	09/04/2003	1	
12	IMI0247-03L	S	09/04/2003	1	
13	IMI0247-04G	S	09/04/2003	1	
14	IMI0247-04H	S	09/04/2003	1	
15	IMI0247-04I	S	09/04/2003	1	
16	IMI0247-04J	S	09/04/2003	1	
17	IMI0247-04K	S	09/04/2003	1	
18	IMI0247-04L	S	09/04/2003	1	
19	IMI0247-05F	S	09/04/2003	1	
20	IMI0247-05G	S	09/04/2003	1	
21	IMI0247-05H	S	09/04/2003	1	
22	IMI0247-05I	S	09/04/2003	1	
23	IMI0247-05J	S	09/04/2003	1	
24	IMI0247-06C	S	09/04/2003	1	
25	IMI0247-06D	S	09/04/2003	1	
26	IMI0247-07C	S	09/04/2003	1	
27	IMI0247-07D	S	09/04/2003	1	
28	IMI0247-08C	S	09/04/2003	1	
29	IMI0247-08D	S	09/04/2003	1	
30	Composite IMI0247-02G, H, I, J, K, L	S	09/04/2003	1	#30 is a composite of samples -1 thru -6.
31	Composite IMI0247-03G, H, I, J, K, L	S	09/04/2003	1	#31 is a composite of samples -7 thru -12.
32	Composite IMI0247-04G, H, I, J, K, L	S	09/04/2003	1	#32 is a composite of samples -13 thru -18.

Sample Summary Report

WORK ORDER #: 03-09-0355

QAPP: 0000

WORK ORDER #:

03 - 09 - 03 55

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Del Mar Analytical

DATE: 9-8-03

TEMPERATURE - SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

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

LABORATORY (Other than Calscience Courier):

- ☐ °C Temperature blank.
4 ☐ °C IR thermometer.
☐ Ambient temperature

Initial: AK

CUSTODY SEAL INTACT:

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

Initial: AK

SAMPLE CONDITION:

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

Initial: AK

COMMENTS:

DATE: October 7, 2003

Page 1 of 6

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)

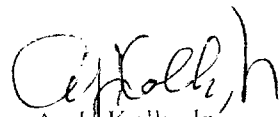
The soil samples were analyzed by polarized light microscopy as described in the "Method for the Determination of Asbestos in Bulk Building Material" (US EPA 600/R-93/116). The samples were dried. Conglomerated material was desegregated by using a rubber mallet in order to not crush the rock fragments,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

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
CLIENT: Del Mar Analytical
SAMPLE ID: IMI0247-02M to 02R
SIZE RANGE: FINE<2mm
FRACTION
WEIGHT 266.7 gm

SAMPLE
APPEARANCE BROWN GRANULAR

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

ASBESTOS
PRESENT NONE DETECTED
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 ND
PERCENTAGE
OF 4 PREP

N. D. = NONE DETECTED

ANALYST

Q. C. ANALYST

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

SIZE RANGE: COARSE >2mm
FRACTION
WEIGHT 165 gm

SAMPLE
APPEARANCE BROWN GRANULAR

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

ASBESTOS
PRESENT NONE DETECTED
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 ND
PERCENTAGE
OF 4 PREP

T= TRACE

DATE

10-7-03

LABORATORY NO: 89735
CLIENT: Del Mar Analytical
SAMPLE ID: IMI0247-03M to 03R
SIZE RANGE: FINE<2mm

FRACTION

WEIGHT 251.1 gm

SAMPLE
APPEARANCE

BROWN GRANULAR

SIZE RANGE: FINE
ANALYSIS
DESCRIPTION 4 PREPS

i.e.
MORPHOLOGY

ASBESTOS

PRESENT AMOSITE LESS THAN 1%
TYPE & PERCENT CHRYSOTILE TRACE

OTHER
FIBROUS
MATERIAL
PRESENT

CELLULOSE LESS THAN 1%

NON-FIBROUS
MATERIAL
PERCENT

GRANULAR MINERALS
OPAQUES
MICA

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

SIZE RANGE: COARSE >2mm

FRACTION

WEIGHT 208 gm

SAMPLE
APPEARANCE

BROWN GRANULAR

SIZE RANGE: COARSE
ANALYSIS
DESCRIPTION 4 PREPS

i.e.
MORPHOLOGY

ASBESTOS

PRESENT CHRYSOTILE LESS THAN 1%
TYPE & PERCENT AMOSITE 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.

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE AMOSITE= POINT CT 0.83/400
PERCENTAGE CHRYSOTILE=POINT CT 0/400
OF 4 PREP

AVERAGE CHRYSOTILE=POINT CT 0.13/400
PERCENTAGE AMOSITE= POINT CT 0.875/400
OF 4 PREP

N. D. = NONE DETECTED

T= TRACE

ANALYST

P. Vartanian
Carl F. By

DATE

10-7-03

Q. C. ANALYST

LABORATORY NO: 89735
CLIENT: Del Mar Analytical
SAMPLE ID: IMI0247-04M to 04R
SIZE RANGE: FINE<2mm
FRACTION
WEIGHT 262.4 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
MICA

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE N.D.
PERCENTAGE
OF 4 PREP

N. D. = NONE DETECTED

ANALYST

Q. C. ANALYST

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

SIZE RANGE: COARSE >2mm
FRACTION
WEIGHT 226 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

T= TRACE

DATE

10-7-03

LABORATORY NO: 89735
CLIENT: Del Mar Analytical
SAMPLE ID: IMI0247-05K to 05O
SIZE RANGE: FINE<2mm
FRACTION
WEIGHT 154.6 gm

SAMPLE
APPEARANCE BROWN GRANULAR

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

ASBESTOS
PRESENT AMOSITE TRACE
TYPE & PERCENT

OTHER CELLULOSE LESS THAN 1%
FIBROUS
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES
VERMICULITE
MICA

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE AMOSITE= POINT CT 0/400
PERCENTAGE
OF 4 PREP

N. D. = NONE DETECTED

ANALYST

Q. C. ANALYST

DATE: October 7, 2003 PG. 5 OF 6
ATTENTION: Michele Harper

SIZE RANGE: COARSE >2mm
FRACTION
WEIGHT 231.5 gm

SAMPLE
APPEARANCE BROWN GRANULAR

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

ASBESTOS
PRESENT AMOSITE TRACE
TYPE & PERCENT

OTHER CELLULOSE LESS THAN 1%
FIBROUS
MATERIAL
PRESENT

NON-FIBROUS
MATERIAL GRANULAR MINERALS
PERCENT OPAQUES
VERMICULITE
MICA

NO. OF FIELDS VIEWED 100 fields/prep.

AVERAGE AMOSITE= POINT CT 0/400
PERCENTAGE
OF 4 PREP

T= TRACE

DATE

10-7-03

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

N. D = NONE DETECTED

ANALYST

R. Portanova

Q. C. ANALYST

W. Kelly

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

T= TRACE

DATE

10/7/03

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0247

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: IMI0247-02 Soil Asbestos By TEM	Sampled: 09/04/03 11:30 09/06/03 11:30	comp of 6 Subcontract to EMS Labs, Level IV QC

Containers Supplied:

2 oz jar (IMI0247-02M)
 2 oz jar (IMI0247-02N)
 2 oz jar (IMI0247-02O)
 2 oz jar (IMI0247-02P)
 2 oz jar (IMI0247-02Q)
 2 oz jar (IMI0247-02R)

Sample ID: IMI0247-03 Soil Asbestos By TEM	Sampled: 09/04/03 11:45 09/06/03 11:45	comp of 6 Subcontract to EMS Labs, Level IV QC
---	---	---

Containers Supplied:

2 oz jar (IMI0247-03M)
 2 oz jar (IMI0247-03N)
 2 oz jar (IMI0247-03O)
 2 oz jar (IMI0247-03P)
 2 oz jar (IMI0247-03Q)
 2 oz jar (IMI0247-03R)

Sample ID: IMI0247-04 Soil Asbestos By TEM	Sampled: 09/04/03 13:00 09/06/03 13:00	comp of 6 Subcontract to EMS Labs, Level IV QC
---	---	---

Containers Supplied:

2 oz jar (IMI0247-04M)
 2 oz jar (IMI0247-04N)
 2 oz jar (IMI0247-04O)
 2 oz jar (IMI0247-04P)
 2 oz jar (IMI0247-04Q)
 2 oz jar (IMI0247-04R)

Released By <i>[Signature]</i>	Date <i>9-8-03</i>	Time <i>8:30</i>	Received By <i>[Signature]</i>	Date <i>9/8/03</i>	Time <i>8:30</i>
Released By <i>[Signature]</i>	Date <i>9/8/03</i>	Time <i>10:50</i>	Received By <i>[Signature]</i>	Date <i>9-8-03</i>	Time <i>11:00</i>

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0247

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: IMI0247-05 Soil Asbestos By TEM	Sampled: 09/04/03 13:10 09/06/03 13:10	comp of 5 Subcontract to EMS Labs, Level IV QC
Containers Supplied: 2 oz jar (IMI0247-05K) 2 oz jar (IMI0247-05L) 2 oz jar (IMI0247-05M) 2 oz jar (IMI0247-05N) 2 oz jar (IMI0247-05O)		
Sample ID: IMI0247-06 Soil Asbestos By TEM	Sampled: 09/04/03 13:25 09/06/03 13:25	comp of 2 Subcontract to EMS Labs, Level IV QC
Containers Supplied: 2 oz jar (IMI0247-06E) 2 oz jar (IMI0247-06F)		
Sample ID: IMI0247-07 Soil Asbestos By TEM	Sampled: 09/04/03 09:30 09/06/03 09:30	comp of 2 Subcontract to EMS Labs, Level IV QC
Containers Supplied: 2 oz jar (IMI0247-07E) 2 oz jar (IMI0247-07F)		
Sample ID: IMI0247-08 Soil Asbestos By TEM	Sampled: 09/04/03 10:00 09/06/03 10:00	comp of 2 Subcontract to EMS Labs, Level IV QC
Containers Supplied: 2 oz jar (IMI0247-08E) 2 oz jar (IMI0247-08F)		

Released By

Date

Time

Received By

Date

Time

Released By

Date

Time

Received By

Date

Time

SUBMITTAL FORM/Laboratory Services

PAGE 1 OF 1TURNAROUND TIME: STD ☒ 48 HR. ☐ 24 HR. ☐<8 HR. ☐ WKND ☐ OTHER: ☐RELINQUISHED BY Tracy CorleyTIME / DATE 9/8/03 10:50CLIENT Del Mar AnalyticalDATE OF SHIPMENT 9/8/03 CARRIER IMC 0247ADDRESS 3851 Alton ParkwayCLIENT P.O. NO. IMC 0247TELEPHONE 949-261-1022CLIENT JOB/PROJECT ID NO(S) IMC 0247CONTACT Michelle LopezPACKAGE SHIPPED FROM IMC 0247RESULTS REQUESTED VIA VERBAL ☐ FAX ☐CLIENT FAX NO. (949) 261-1228

(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 7 SAMPLER'S NAME SIGNATURE PRINTED TYPE: ☐ WATER ☐ WASTE WATER ☐ SOIL ☐ FILTER ☐ SORBENT TUBE ☐ IMPINGER ☐ OTHER TEA

(FOR EMS ONLY)

EMS Sample No.

CLIENT SAMPLE NO.

DESCRIPTION/LOCATION/ANALYSIS

VOLUME/
TIME/WEIGHT
(IF APPLICABLE)

89735-2

IMC 0247-05 See Attached

3

03

4

04

5

05

6

06

7

07

8

08

(SF 5/00)

FOR EMS ONLY

Laboratory No. 89735Received By Time 11:00Date of Package Delivery 9-8-03Shipping 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 7Chain-of-Custody Signature Date of Acceptance into Sample Bank 9-8-03Misc. Info. Disposition of Samples

LABORATORY REPORT

Prepared For: M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project: Building 56 Landfill
 Boeing SSFL

Sampled: 09/02/03
 Received: 09/03/03
 Revised: 10/30/03

NELAP #01108CA CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain 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 5°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.

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: No significant observations were made. This is a revised report. The report was revised due to a need for recalculation of the perchlorate results. The recalculation of the perchlorate did not affect the final result reported for sample M T521, IM I0126-1. The result remained nondetect. The batch QC did change, but all QC results were still within method acceptance limits. Please see the attached CAR, corrective action report, for more details on the revised perchlorate results. The report was also revised to report data on a dry weight basis.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included with this report.

LABORATORY ID	CLIENT ID	MATRIX
IM I0126-01	M T521	Soil
IM I0126-02	M T522	Soil
IM I0126-03	M T523	Soil
IM I0126-04	M T524	Soil



Del Mar Analytical, Irvine
 Michelle Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0126

Sampled: 09/02/03
 Received: 09/03/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T522 (IM I0126-02) - Soil EPA 9045C	1	09/02/2003 11:15	09/03/2003 17:32	09/11/2003 20:00	09/11/2003 22:45
Sample ID : M T523 (IM I0126-03) - Soil EPA 9045C	1	09/02/2003 12:00	09/03/2003 17:32	09/11/2003 20:00	09/11/2003 22:45
Sample ID : M T524 (IM I0126-04) - Soil EPA 9045C	1	09/02/2003 13:45	09/03/2003 17:32	09/11/2003 20:00	09/11/2003 22:45

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

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

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0126

Sampled: 09/02/03
 Received: 09/03/03

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
H1	Sample analysis performed past the method-specified holding time per clients approval.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
M-HA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
RL-1	Reporting limit raised due to sample matrix effects.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library.

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

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

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0126

Sampled: 09/02/03
 Received: 09/03/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 314.0 MOD.	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

Calscience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM I0126-02, IM I0126-03, IM I0126-04

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: COC MT 520

Date 9 / 2 / 03 Page 1 of 1

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: LAB PICK-UP
Comment: BCI / A-1000

Project Manager: Boeing SSFL
 Project Number: 1890812-0116
 Deliver the results to the address above or as stated in contract

Cooler No.	
QC Level:	
TAT:	NORMAL

Bill To: Lowell Moffitt
Company: MWH
Address: 450 N. Medison Avenue, Pasadena, CA, 91101
300 N. LAKE AVE, SUITE 1200

Sampler's Signature:	Date	Time
<i>James G. Kelly</i>	4/2/03	1530
Relinquished By:	Date	Time
<i>James G. Kelly</i>	4/3/03	1530
Received By:	Date	Time
<i>James G. Kelly</i>	4/3/03	1530
Relinquished By:	Date	Time
<i>James G. Kelly</i>	4/3/03	1732
Received By (LAB):	Date	Time
<i>Vincent Kelly</i>	4-3-03	1732

For Lab Use		Comments: AS NEEDED ANALYZE FOR TOLP AND/OR STLC FOR HAZARDOUS WASTE CHARACTERIZATION * ALL VOC'S RUN IN ENCORE SAMPLERS ** T - HANDLE
Lab Number:	Does COC match samples: ☒ or N Broken container: Y or ☒ N Received within holding time: ☒ or N COC Seal Intact: Y or N Any other problems: Y or N If any YES, MWH contacted: Y or N Date Contacted: <u>1/1</u> Temperature °C <u>50</u>	

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

*** MTS4 - ANACYTE FOR
PERACETOLATE ANALY



CASE NARRATIVE

Client: MWH

Date Sampled: 09/02/03

Project: Building 56 Landfill

Date Received: 09/03/03

Boeing SSFL

Lab: IMI0126

SAMPLE RECEIPT: Samples were received intact on ice and with chain of custody number MT 520. The sample temperature was measured at 5°C upon receipt at the laboratory.

HOLDING TIMES: EPA 9045C samples IMI0126-02, 03 and 04 analysis were performed past method specified holding times with client's approval.

PROBLEMS

ENCOUNTERED: No additional problems were encountered during sample analysis.

QA/QC CRITERIA: Cadmium, Cobalt, Copper, Nickel, and Zinc were detected in the Method Blank of batch 3115085.

Due to high levels of Aluminum in sample IMI0125-03, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3115085. See LCS for batch validation.

The MS recovery for Antimony was below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3115085. See LCS for batch validation.

The MSD recovery for Antimony and Boron were below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3115085. See LCS for batch validation.

EPA 8015 MOD. sample IMI0126-03 required dilution due to the nature of the sample matrix. Because of this dilution, the surrogate n-Octacosane spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

OBSERVATIONS: Results that fall between the MDL and RL are "J" flagged.

The reporting limit for EPA 8015 MOD. sample IMI0126-03 was raised due to sample matrix effects.



CASE NARRATIVE

Client: MWH

Date Sampled: 09/02/03

Project: Building 56 Landfill
Boeing SSFL

Date Received: 09/03/03

Lab: IMI0126

SUBCONTRACTED: EPA 8270C SIM analysis was performed at Calscience, Garden Grove, CA.

DEL MAR ANALYTICAL

Michele Harper
Project Manager

F A X**MWH**1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/11/2003

Tel: 619-699-4124
Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao
sign: *Edmund Sarao*Subject: Chain-of-Custody Form Analytical
Request ChangeNo. of Pages: 3
(including cover)**Per Request:**

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

COC No.	EPA Sample ID	Original MWH Sample ID	Date Collected	Method (s) Originally Requested	Method (s) and Changes Now Requested
MT520	MT522	BLTS15S01	09/02/2003	HOLD all analysis	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)
MT520	MT523	BLTS16S01	09/02/2003	HOLD all analysis	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)
MT520	MT524	BLTS17S01	09/02/2003	HOLD all analysis	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

_____ X _____

Other: Containers mislabeled

Thank you.



MWH
MONTGOMERY WATSON HARZA

250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: COC 777520

Bill To: Lowell Martin
Company: MWH
Address: 350 N. Linden Avenue, Pasadena, CA, 91101
Phone: 610 666 6100 Fax: 610 666 6177

Player No.	
Level:	
TAT:	1024711 C

Sample ID	Description (for MVN use only)	SWAU	Drops	Date Collected	Time Collected	ULS Number	Lab ID
U520	BUS 15501	7.1	15	11/16/00	1500		
U521	BUS 15501	7.1	15	11/16/00	1500		
U522	BUS 15501	7.1	10	11/16/00	1500		
U523	BUS 15501	7.1	10	11/16/00	1500		
U524	BUS 15501	7.1	10	11/16/00	1500		
U520	BUS 15501	7.1	10	11/16/00	1500		

Declarant Signature: <i>man in black</i>	Date 7/2/07 15:30	Time
Inquired By: <i>Thomas J. Smith</i>	Date 9/3/07 15:30	Time
Relayed By: <i>James D. G.</i>	Date 9/3/07 15:30	Time
Inquired By:	Date	Time
Relayed By (LAB):	Date	Time

For Lab Use	
Lab Number:	Comments:
Does COC match samples: Y or N Broken containers: Y or N Resolved within holding time: Y or N COC Seal intact: Y or N Any other problems: Y or N If any YES, MWH contacted: Y or N Date Contacted: ____/____/____ Temperature °C	NO NEEDED ANALYZE FOR TOLP AND/OR STC FOR HAZARDOUS WASTE CHARACTERIZATION ALL VOC'S RUN W/ ENCORE SAMPLERS: T-HANDLE

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

longer and shorter
and shorter - longer

LABORATORY REPORT

Prepared For: M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project: Building 56 Landfill
 Boeing SSFL

Sampled: 09/02/03
 Received: 09/03/03
 Revised: 10/30/03

NELAP #01108CA CA ELAP #1197

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 This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 5°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.

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: No significant observations were made. This is a revised report. The report was revised due to a need for recalculation of the perchlorate results. The recalculation of the perchlorate did not affect the final result reported for sample M T521, IM I0126-1. The result remained nondetect. The batch QC did change, but all QC results were still within method acceptance limits. Please see the attached CAR, corrective action report, for more details on the revised perchlorate results. The report was also revised to report data on a dry weight basis.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included with this report.

LABORATORY ID	CLIENT ID	MATRIX
IM I0126-01	MT521	Soil
IM I0126-02	MT522	Soil
IM I0126-03	MT523	Soil
IM I0126-04	MT524	Soil



Del Mar Analytical, Irvine
 Michelle Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0126

Sampled: 09/02/03
 Received: 09/03/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T522 (IM I0126-02) - Soil EPA 9045C	1	09/02/2003 11:15	09/03/2003 17:32	09/11/2003 20:00	09/11/2003 22:45
Sample ID : M T523 (IM I0126-03) - Soil EPA 9045C	1	09/02/2003 12:00	09/03/2003 17:32	09/11/2003 20:00	09/11/2003 22:45
Sample ID : M T524 (IM I0126-04) - Soil EPA 9045C	1	09/02/2003 13:45	09/03/2003 17:32	09/11/2003 20:00	09/11/2003 22:45

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

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

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0126

Sampled: 09/02/03
 Received: 09/03/03

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
H1	Sample analysis performed past the method-specified holding time per clients approval.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
M-HA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
RL-1	Reporting limit raised due to sample matrix effects.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library.

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

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

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0126

Sampled: 09/02/03
 Received: 09/03/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 314.0 MOD.	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

CalScience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM I0126-02, IM I0126-03, IM I0126-04

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: COC MT 520

Date 9 / 103 Page 1 of 1

Sample Disposal Instructions: Laboratory Disposal
Shipment Method: LAB PICK-UP
Comment: 20110125

Bill To: Lowell Moffitt
Company: MWH
Address: 250 N. Madison

Project Manager: ~~Eric Hambrecht~~ **GLENN JAFFE**
Project Name: Boeing SSFL
Project Number: 1890812-0116
Deliver the results to the address above or as stated in contract

Cooler No.	
QC Level:	TAT: <i>NORMAL</i>

Amplifiers Signature:	Date	Time
<i>[Signature]</i>	4/2/03	1500
Relinquished By:	Date	Time
<i>[Signature]</i>	4/3/03	1530
received By:	Date	Time
<i>[Signature]</i> De MAR	4/3/03	1530
Relinquished By:	Date	Time
<i>[Signature]</i> De MAR	4/3/03	1732
received By (LAB):	Date	Time
<i>[Signature]</i>	4-3-03	1732

For Lab Use	
Lab Number:	Comments:
Does COC match samples: ☒ or N	AS NEEDED ANALYZE FOR TOLP AND/OR SILC FOR HAZARDOUS WASTE CHARACTERIZATION * ALL VOC'S RUN W/ ENCORE SAMPLERS ** T. HANNE
Broken container: Y or ☒ N	
Received within holding time: ☒ or N	
COC Seal Intact: Y or N	
Any other problems: Y or N	
If any YES, MWH contacted: Y or N	
Date Contacted: 1/1	Temperature: 0°C

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

***INT 52 - ANALYZE FOR
PERACETOLATE AND

LABORATORY REPORT

Prepared For: M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project: Building 56 Landfill
 Boeing SSFL

Sampled: 09/03/03
 Received: 09/03/03
 Issued: 09/25/03

NELAP #01108CA

CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED : Refer to the last page for specific subcontract laboratory information included with this report.

LABORATORY ID	CLIENT ID	MATRIX
IM I0125-01	MT525	Water
IM I0125-02	MT526	Soil
IM I0125-03	MT527	Soil
IM I0125-04	MT528	Soil
IM I0125-05	MT529	Soil
IM I0125-06	MT530	Soil
IM I0125-07	MT531	Soil



Del Mar Analytical, Irvine
 Michelle Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0125

Sampled: 09/03/03
 Received: 09/03/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T526 (IM I0125-02) - Soil EPA 9045C	1	09/03/2003 10:50	09/03/2003 17:32	09/11/2003 21:30	09/12/2003 00:00
Sample ID : M T527 (IM I0125-03) - Soil EPA 9045C	1	09/03/2003 14:15	09/03/2003 17:32	09/11/2003 21:30	09/12/2003 00:00
Sample ID : M T528 (IM I0125-04) - Soil EPA 9045C	1	09/03/2003 09:30	09/03/2003 17:32	09/11/2003 21:30	09/12/2003 00:00
Sample ID : M T529 (IM I0125-05) - Soil EPA 9045C	1	09/03/2003 10:10	09/03/2003 17:32	09/11/2003 21:30	09/12/2003 00:00
Sample ID : M T530 (IM I0125-06) - Soil EPA 9045C	1	09/03/2003 08:00	09/03/2003 17:32	09/11/2003 21:30	09/12/2003 00:00
Sample ID : M T531 (IM I0125-07) - Soil EPA 9045C	1	09/03/2003 13:30	09/03/2003 17:32	09/11/2003 21:30	09/12/2003 00:00

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

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

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0125

Sampled: 09/03/03
 Received: 09/03/03

DATA QUALIFIERS AND DEFINITIONS

B Analyte was detected in the associated Method Blank.
 H1 Sample analysis performed past the method-specified holding time per clients approval.
 J Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
 M-HA Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
 M2 The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
 ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
 RPD Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NTH library.

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

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

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0125

Sampled: 09/03/03
 Received: 09/03/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	N/A	N/A
EPA 8260B	Soil	X	X
EPA 8260B	Water	X	X
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

CalScience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM I0125-02, IM I0125-03, IM I0125-04, IM I0125-05, IM I0125-06, IM I0125-07

EMS-SUB CA ELAP Cert#1119

117 W. Bellevue Drive - Pasadena, CA 91105

Analysis Performed: Asbestos By PLM

Samples: IM I0125-04

Del Mar Analytical, Irvine

Michelle Harper

Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Control Number: COC MT 525

Date 4/3/03 Page 1 of 1

Project Manager: David Hembrick GLENN JAFFE
 Project Name: Boiling SSFL
 Project Number: 1890812.0116
 Deliver the results to the address above or as stated in contract

Bill To: Lowell Moffitt
Company: MWH
Address: 350 N. Madison Avenue, Pasadena, CA 91101
300 N. LAKE AVE., SUITE 1200

Date 11/3/23 Page 1 of 1
Sample Disposal Instructions: Laboratory Disposal
Shipment Method: LAB PICK-UP
Comment: BSG LANDFILL

Cooler No.	
QC Level:	TAT: <i>Normal</i>

Sample Data						
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	ULS Number
MT525	BCLW06T01	7.1		9/3/23		
MT526	BUTS25S01	7.1	6-8		1050	
MT527	BUTS32S01	7.1	3-4		1415	
MT528	BUTS23S01	7.1	3		0930	
MT529	BUTS24S01	7.1	6-8		1010	
MT530	BUTS20S01	7.1	8-20		0820	
MT531	BUTS30S01	7.1	6-8	✓	1330	

Sampler's Signature:	Date	Time
<i>Bruce Delmar</i>	9/3/03	1500
Relinquished By:	Date	Time
<i>[Signature]</i>	9/3/03	1530
Received By:	Date	Time
<i>[Signature] Delmar</i>	9/3/03	1530
Relinquished By:	Date	Time
<i>[Signature] Delmar</i>	9/3/03	1738
Received By (LAB):	Date	Time
<i>[Signature]</i>	9-3-03	1732

For Lab Use	
Lab Number:	Comments:
Does COC match samples: ☒ or ☐ N	AS NEEDED ANALYZE FOR TOLP AND/OR SEC FOR HAZARDOUS WASTE CHARACTERIZATION ALL VOC'S RUN W/ ENCORE SAMPLERS
Broken container: ☐ Y or ☒ N	
Received within holding time: ☒ Y or ☐ N	
COC Seal intact: ☐ Y or ☐ N	
Any other problems: ☐ Y or ☐ N	
If any YES, MWH contacted: ☐ Y or ☐ N	
Date Contacted: <u>1/12</u>	
Temperature °C <u>502</u>	

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



CASE NARRATIVE

Client: MWH

Date Sampled: 09/03/03

Project: Building 56 Landfill Boeing SSFL

Date Received: 09/03/03

Lab: IMI0125

SAMPLE RECEIPT: Samples were received intact on ice and with chain of custody number MT525. The sample temperature was measured at 5°C upon receipt at the laboratory.

HOLDING TIMES: EPA 9045C samples IMI0125-02, 03, 04, 05, 06 and 07 analysis were performed past method specified holding time with client's approval.

PROBLEMS ENCOUNTERED: No additional problems were encountered during sample analysis.

QA/QC CRITERIA: Due to high levels of Aluminum in sample IMI0125-02, the MS/MSD calculation does not provide useful spike information for EPA 6010B QC batch 3115077. See LCS for batch validation.

Due to high levels of Aluminum in sample IMI0125-03, the MS/MSD calculation does not provide useful spike information for EPA 6010B QC batch 3115085. See LCS for batch validation.

The MS and MSD recoveries for Antimony were below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3115077. See LCS for batch validation.

The MS recovery for Antimony was below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3115085. See LCS for batch validation.

The MSD recovery for Antimony and Boron were below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3115085. See LCS for batch validation.

OBSERVATIONS: Results that fall between the MDL and RL are "J" flagged.

Copper, Cobalt, Nickel and Zinc were detected in the Method Blank of batch 3115085.

Boron, Copper, Nickel and Zinc were detected in the Method Blank of batch 3115077.



CASE NARRATIVE

Client: MWH

Date Sampled: 09/03/03

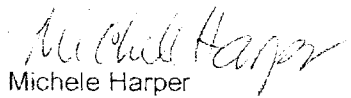
Project: Building 56 Landfill Boeing SSFL

Date Received: 09/03/03

Lab: IMI0125

SUBCONTRACTED: Analysis for EPA 8270C was subcontracted to Calscience, Garden Grove, CA and analysis for Asbestos by PLM was subcontracted to EMS, Pasadena, CA.

DEL MAR ANALYTICAL



Michele Harper
Project Manager

F A X1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/11/2003

Tel: 619-699-4124

Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao
sign: Edmund SaraoSubject: Chain-of-Custody Form Analytical
Request ChangeNo. of Pages: 3
(including cover)**Per Request:**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples. (note: added asbestos analysis was required only for sample MT528 – BLTS23S01)

COC No.	EPA Sample ID	Original MWH Sample ID	Date Collected	Method (s) Originally Requested	Method (s) and Changes Now Requested
MT525	MT526	BLTS25S01	09/03/2003	HOLD all analysis	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)
MT525	MT527	BLTS32S01	09/03/2003	HOLD all analysis	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)
MT525	MT528	BLTS23S01	09/03/2003	HOLD all analysis	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C), Asbestos. <i>X</i>

COC No.	EPA Sample ID	Original MWH Sample ID	Date Collected	Method (s) Originally Requested	Method (s) and Changes Now Requested
MT525	MT529	BLTS24S01	09/03/2003	HOLD all analysis	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)
MT525	MT530	BLTS20S01	09/03/2003	HOLD all analysis	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)
MT525	MT531	BLTS30S01	09/03/2003	HOLD all analysis	VOC (8260B), TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)

The reason for these changes:

Incorrectly marked on COC form _____

Lack of sample volume _____

MWH office personnel require this change _____ X _____

Other: Containers mislabeled _____

Thank you.

October 09, 2003
PM027203

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: Calscience Work Order No.: 03-09-0736
Client Reference: IMI0125

Dear Ms. Harper:

Calscience Environmental Laboratories, Inc. (Calscience) is pleased to submit herewith the subject analytical report. The narrative presented below summarizes our analytical effort and clarifies any quality control anomalies which appear in the report.

Sample Condition on Receipt

Six soil samples were received as part of this Work Order on September 12, 2003. The samples were transferred to the laboratory in an ice chest following strict chain-of-custody procedures. The temperature of the ice chest was measured upon arrival in the laboratory and was within acceptable limits (4°C). The samples were logged into the Laboratory Information Management System (LIMS), given laboratory identification numbers, and stored in refrigeration units pending analysis.

Data Summary

The samples were analyzed for PAHs and NDMA by EPA Method 8270C SIM and dry weight reported.

Holding Times

All holding time requirements were met.

Calibration

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

Blanks

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

Matrix Spikes

Matrix spikes (MS) and matrix spike duplicates (MSD) were performed at required frequencies. All recoveries were within acceptable limits.

Laboratory Control Samples

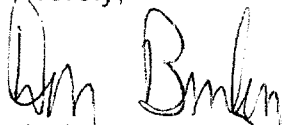
The Laboratory Control Sample (LCS) analyses were performed at the required frequency. All target compound recoveries were within acceptable limits.

Surrogates

Surrogate recoveries for all samples were within acceptable control limits.

If there are any questions regarding this report, please contact the undersigned at (714) 895-5494.

Sincerely,



Calscience Environmental
Laboratories, Inc.
Don Burley
Project Manager

LABORATORY REPORT

Prepared For: M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project: Building 56 Landfill
 Boeing SSFL

Sampled: 08/26/03
 Received: 09/03/03
 Issued: 09/15/03

NELAP #01108CA

CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain 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: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.

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 U-flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL INFORMATION: Enclosed are partial results, subcontract results are pending.

LABORATORY ID

CLIENT ID

MATRIX

IM I0124-01

MT509

Soil

IM I0124-02

MT511

Soil

IM I0124-03

MT512

Soil



Del Mar Analytical, Irvine
 Michelle Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0124

Sampled: 08/26/03
 Received: 09/03/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T509 (IM I0124-01) - Soil EPA 9045C	1	08/26/2003 13:35	09/03/2003 20:24	09/04/2003 21:30	09/04/2003 22:30
Sample ID : M T511 (IM I0124-02) - Soil EPA 9045C	1	08/26/2003 13:33	09/03/2003 20:24	09/04/2003 21:30	09/04/2003 22:30
Sample ID : M T512 (IM I0124-03) - Soil EPA 9045C	1	08/26/2003 14:00	09/03/2003 20:24	09/04/2003 21:30	09/04/2003 22:30

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0124

Sampled: 08/26/03
 Received: 09/03/03

DATA QUALIFIERS AND DEFINITIONS

H 3 Sample was received and analyzed past holding time.
 J Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
 M -H A Due to high levels of analyte in the sample, the M S/M SD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
 M 1 The M S and/or M SD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
 ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
 R PD Relative Percent Difference

ADDITIONAL COMMENTS

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

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

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM I0124

Sampled: 08/26/03
 Received: 09/03/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	N/A	N/A
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

CalScience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM I0124-01, IM I0124-02, IM I0124-03

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

Chain of Custody

Final 0124

Control Number: **COC** MT509

Date 8/26/03 Page 1 of 1

Project Manager: David Handbrick
Project Name: Boeing SSFL
Project Number: 1890812.0116
Deliver the results to the address above or as stated in contract

Bill To: Lowell Moffitt
Company: MWH
Address: 850 H. Madison Avenue, Pasadena, CA, 91101
300 N. 1st Ave. Suite 1200

Cooler No.	
QC Level:	TAT: <i>normal</i>

Sample Data						
Sample ID	Description (for MWH use only)	SWMU	Depth (feet)	Date Collected	Time Collected	ULS Number
MT509	BLTS09S02	7.1	3	8/26/09	1335	
MT510	BLTS09S01					
MT510	BLTS10S01	7.1	17	8/26/09	1200	
MT511	BLTS13S01	7.1	2.5		1333	
MT512	BLTS14S01	7.1	2		1400	

8260B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</
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Sampers Signature:	Date	Time
<i>[Signature]</i>	8/26/08	1445

Relinquished By:	Date	Time
<i>[Signature]</i>	8/26/08	1505

Received By:	Date	Time
<i>[Signature]</i>	8/28/08	1505

Relinquished By:	Date	Time
<i>[Signature]</i>	8/26/08	1530

Received By (LAB):	Date	Time
<i>[Signature]</i>	8/26/08	1830

For Lab Use	
Lab Number: Does COC match samples: <u>(Y)</u> or N Broken container: Y or <u>(N)</u> Received within holding time: <u>(Y)</u> or N COC Seal Intact: Y or N Any other problems: Y or N If any YES, MWH contacted: Y or N Date Contacted: <u>1/16</u> Temperature, °C: <u>9.6</u>	Comments: AS NEEDED ANALYZES FOR TOLP AND/OR STE FOR HAZARDOUS WASTE CHARACTERIZATION APU WOODS RUN W/ATH ENCORE COMPLETES

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



F A X**MWH**1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/03/03

Tel: 619-699-4124

Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical**Fax No:** 949-261-1228**From:** Edmund Saraosign: *Edmund Sarao***Subject:** Chain-of-Custody Form Analytical
Request Change**No. of Pages:** 3
(including cover)**Per Request:**

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final data deliverables for these samples. Also, refer to Change Request Form "MT509_27Aug03.pdf" for previous ID changes.

COC No.	EPA Sample ID	Original MWH Sample ID	Date Collected	Method (s) Originally Requested	Method (s) and Changes Now Requested
MT509	MT509	BLTS09S02	08/26/2003	HOLD analysis	TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C), Asbestos.
MT509	MT511	BLBS20S01	08/26/2003	HOLD analysis	TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C), Asbestos.
MT509	MT512	BLBS21S01	08/26/2003	HOLD analysis	TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C), Asbestos.

F A X



1230 Columbia Street, Suite 750
San Diego, California 92101-8536

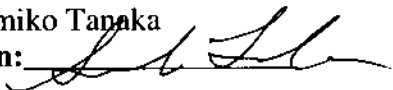
Date: 10/06/03

Tel: 619-699-4124
Fax: 619-239-3895

To: INTERNAL PURPOSE ONLY

Fax No: 949-261-1228

From: Sumiko Tanaka

sign: 

Subject: Database-change Request

No. of Pages: 2
(including cover)

Per Request: Area I AOC Building 359

COC No.	EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) Now Requested
MT509	MT509	BLTS09S02	08/26/2003	Cancel Asbestos
MT509	MT511	BLBS20S01	08/26/2003	Cancel Asbestos
MT509	MT512	BLBS21S01	08/26/2003	Cancel Asbestos

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

☒ X

Thank you.

Chain of Custody

Control Number: C0C MT509
Date 8/26/03 Page 1 of
Sample(s) Discussed: Laboratory Discussed
Signature Method: GND PGPUR
Comment: B56 LND/F14

BID To: Lowell Moffitt
Company: BWH
Address: 300 N. PEAKS AVE. SUITE 1200
BOSTON, MA 02109

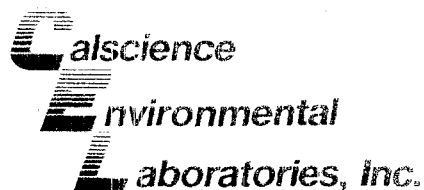
Project Manager: **"BOB" ROBERTSON** **GLENN JAFFE**
 Project Name: **Beeling S&FL**
 Project Number: **1970814-016**
 The number on sheet in contact

Coiler No.	
QC Level:	
NAT: Normal	

Sample Data					
Sample ID	Description (for MWH use only)	SWMU	Site #	Date Collected	Time Collected
MT 509	BLTS09S02	7.1	3	8/24/08	1335
MT 510	BLTS11S01	7.1	17	8/24/08	1200
MT 511	BLTS12S01	7.1	25	8/25/08	1333
MT 512	BLTS11S01	7.1	2	8/25/08	1400
	BLBS20S01				
	BLBS21S01				

Spolara Signature:	Date	Time
<i>Brian C. Kelly</i>	8/24/80	14:45
Relinquished By:	Date	Time
	8/24/80	15:00
Received By:	Date	Time
	8/24/80	15:00
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

Lab Number: _____		AS NEEDED ANALYZE FOR TOLP AND/OR SIC FOR HAZARDOUS WASTE CHARACTERIZATION	100 100
Does GOC match samples: Y or N			
Broken containers: Y or N			
Received within holding time: Y or N			
GOC Seal intact: Y or N			
Any other problems: Y or N		100 100	
If any YES, MWH contacted: Y or N			
Date Contacted: ____/____/____			
Temperature °C			



October 09, 2003
PM026803

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: Calscience Work Order No.: 03-09-0303
Client Reference: IMI0124

Dear Ms. Harper:

Calscience Environmental Laboratories, Inc. (Calscience) is pleased to submit herewith the subject analytical report. The narrative presented below summarizes our analytical effort and clarifies any quality control anomalies which appear in the report.

Sample Condition on Receipt

Three soil samples were received as part of this Work Order on September 5, 2003. The samples were transferred to the laboratory in an ice chest following strict chain-of-custody procedures. The temperature of the ice chest was measured upon arrival in the laboratory and was within acceptable limits (4°C). The samples were logged into the Laboratory Information Management System (LIMS), given laboratory identification numbers, and stored in refrigeration units pending analysis.

Data Summary

The samples were analyzed for PAHs and NDMA by EPA Method 8270C SIM and dry weight reported.

Holding Times

All holding time requirements were met.

Calibration

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

Blanks

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

Matrix Spikes

Matrix spikes (MS) and matrix spike duplicates (MSD) were performed at required frequencies. All recoveries were within acceptable limits.

Laboratory Control Samples

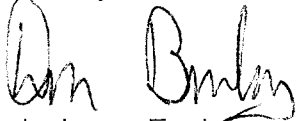
The Laboratory Control Sample (LCS) analyses were performed at the required frequency. All target compound recoveries were within acceptable limits.

Surrogates

Surrogate recoveries for all samples were within acceptable control limits.

If there are any questions regarding this report, please contact the undersigned at (714) 895-5494.

Sincerely,



Calscience Environmental
Laboratories, Inc.
Don Burley
Project Manager

SUBCONTRACT ORDER

Del Mar Analytical, Irvine

Project ID # IMI0124

94
03-08-0303SENDING 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:

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

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: IMI0124-01 Soil 8270C (SIM)-OUT	Sampled: 08/26/03 13:35 09/09/03 13:35	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0124-01C)		
Sample ID: IMI0124-02 Soil 8270C (SIM)-OUT	Sampled: 08/26/03 13:33 09/09/03 13:33	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0124-02C)		
Sample ID: IMI0124-03 Soil 8270C (SIM)-OUT	Sampled: 08/26/03 14:00 09/09/03 14:00	PAH & NDMA, sub to Calscience, Level IV QC
Containers Supplied: 4 oz Jar (IMI0124-03C)		

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

Released By

Date

Time

Received By

Date

Time

471

LABORATORY REPORT

Prepared For: M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project: Building 56 Landfill
Boeing SSFL

Sampled: 08/26/03-08/28/03
Received: 08/28/03
Revised: 12/16/03

NELAP #01108CA

CA ELAP #1197

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain 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 5°C, on ice and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

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: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

ADDITIONAL INFORMATION: The compound 2-CVE, analyzed by EPA 8260, was not reported for the water sample M T520 because an unpreserved sample container was not received. Per client request, the report was revised to change the sample ID M T520 to M T532. This request was originally made 9/4/03 and Del Mar Analytical inadvertently forgot to change it prior to release of the report. The report was revised to correct the compound name for Freon 113.

LABORATORY ID	CLIENT ID	MATRIX
M H 1614-01	M T517	Soil
M H 1614-02	M T518	Soil
M H 1614-03	M T519	Soil
M H 1614-04	M T532	Water



Del Mar Analytical, Irvine
Michele Harper
Project Manager

M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
Boeing SSFL
Report Number: IM H 1614

Sampled: 08/26/03-08/28/03
Received: 08/28/03

DATA QUALIFIERS AND DEFINITIONS

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library.

Del Mar Analytical, Irvine
Michelle Harper
Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM H 1614

Sampled: 08/26/03-08/28/03
 Received: 08/28/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 8260B	Soil	X	X
EPA 8260B	Water	X	X

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

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

MONTGOMERY WATSON HARZA

41915121

Chain of Custody

Control Number: COC MT 517

Date 8/28/03 page 1 of 1

Project Manager: ~~Diablo Hardware~~ **GLENN JAFFE**
Project Name: Boeing SSFL
Project Number: 1890812-0116
Deliver the results to the address above or as stated in contract

Bill To: Lowell Moffitt
Company: MWH
Address: 350 N. Madison Avenue, Pasadena, CA, 91101
300 N. LAKE AVE., SUITE 1222

Date: 1-28-10 Page: 1 of 1

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: LAB PICKUP

Comment: B56 LANDFILL

Cooler No.	
QC Level:	TAT: <i>NORMAL</i>

[illegible][illegible][illegible]

Samplers Signature:	Date	Time
Brown/Blaney	8/28/03	1510
Relinquished By:	Date	Time
Thomas Smith	9/29/03	1510
Received By:	Date	Time
[Signature]	8-28-03	1510
Relinquished By:	Date	Time
[Signature]	8-28-03	1750
Received By (LAB):	Date	Time
[Signature]	8/28/03	1750

Lab Number:	Does COC match samples: ☒ Y or ☐ N	Comments: AS NEEDED ANALYZE FOR TULP AND/OR SILC FOR HAZARDOUS WASTE CHARACTERIZATION * ALL VOC'S WERE COLLECTED W/ ENCORE SAMPLERS
Broken container:	Y or ☒ N	
Received within holding time:	☒ Y or ☐ N	
COC Seal Intact:	Y or ☒ N	
Any other problems:	Y or ☒ N	
If any YES, MWH contacted:	Y or ☐ N	
Date Contacted:	1/1	temperature °C 5°C

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

F A X1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/04/2003

Tel: 619-699-4124

Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao

sign: Edmund SaraoSubject: Chain-of-Custody Form Analytical
Request ChangeNo. of Pages: 2
(including cover)**Per Request:**

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

COC No.	Original EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) Now Requested
MT517	MT519	BLTS09S01	08/26/2003	Change MWH ID from "BLTS09S01" to "BLTS09S02"
MT517	MT520	TB08280301	08/28/2003	Change MWH ID from "TB08280301" to "BLQW04T01" Change EPA ID from "MT520" to "MT532"

The reason for these changes:

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

Thank you.



250 N. Madison Avenue
Pasadena, CA 91101
(626) 588-6310

Chain of Custody

Control Number: COC 07517

Date: 1/28/23 Page: 10

Project Manager:	Dale Hambrick	442-3341
Project Name:	Boeing SSFL	

Project Name	Project Number	Project Status	Project Manager	Project Start Date	Project End Date	Project Budget	Project Actual Cost	Project Variance	Project Risk	Project Comments
Project A	101	Completed	John Doe	2023-01-01	2023-03-31	\$100,000	\$95,000	\$5,000	Low	Project A completed successfully.
Project B	102	In Progress	Jane Smith	2023-04-01	2023-06-30	\$200,000	\$150,000	\$50,000	Medium	Project B is currently in progress.
Project C	103	On Hold	Mike Johnson	2023-07-01	2023-09-30	\$150,000	\$0	\$150,000	High	Project C is on hold due to budget constraints.
Project D	104	Planned	Sarah Lee	2023-10-01	2023-12-31	\$300,000	\$0	\$300,000	Low	Project D is planned for the next quarter.

Deliver the results to the address above or as stated in contract

BID To:	Lowest Amount
Comments:	None

Company: MWH
Address: 250 N. Madison Avenue, Pasadena, CA. 91101

101114, CA, SIMPSON, FREDERICK J.

רמב"ם

771-5:WV 955

31481010000

Coaler No.
QC Level:

TAI:

7th Edition

[illegible][illegible]

C60B	YOC
807GBM	TPH
BZ7CCSM	SVOC
BZ7QC	SVOC
BZ9D	DIOXINS
B3TSA	FORMALDEHYDE
B3AD	ORDNANCE
6090/7000	METALS
7196A	HEX CHROMIUM
6082	PCEs
9040B/B045C	pH
340.2	FLUORIDE
100M	ANIONS
300M	HYDRAZINE
300M	PERCHLORATES
Sampling Method	
Extra Volume	
MEM6D	HOLD

Samplers Signature:	Date	Time
<i>Brayley</i>	<i>11/1/82</i>	<i>1:00</i>
Relinquished By:	Date	Time
<i>Brayley</i>	<i>11/1/82</i>	<i>1:00</i>
Received By:	Date	Time
<i>Brayley</i>	<i>11/1/82</i>	<i>1:00</i>
Relinquished By:	Date	Time
Received By (LAB):	Date	Time

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

For Lab Use

Lab Number:

Does COC match sample: Y or N

Banken werden. Y or M

AI IN JOURNALISM

Received within holding time:

COC Goal/Int201: Y or N

Any other problems: Y or N

SECRET

IF ANY YES, WITH COMMENTS:

Date Contacted:

Temperature.

Comments:

AS NEGOTIATED ANALYZE
TECP AND/OR CILC
FOR HAZARDOUS WASTE
CHARACTERIZATION
* ALL VOC'S WERE COLLECTED
IN ENCORE SAMPLES

LABORATORY REPORT

Prepared For: M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project: Boeing SSFL

Sampled: 08/26/03-08/27/03

Received: 08/27/03

Issued: 09/10/03

NELAP #01108CA

CA ELAP #1197

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This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID

IM H 1522-01

IM H 1522-02

IM H 1522-03

CLIENT ID

MT514

MT515

MT516

MATRIX

Soil

Soil

Water



Del Mar Analytical, Irvine
Michelle Harper
Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Boeing SSFL

Report Number: IM H 1522

Sampled: 08/26/03-08/27/03
 Received: 08/27/03

DATA QUALIFIERS AND DEFINITIONS

M -HA Due to high levels of analyte in the sample, the M S/M SD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
 R -3 The RPD exceeded the method control limit due to sample matrix effects.
 RL -1 Reporting limit raised due to sample matrix effects.
 ND Analyte NOT DETECTED at or above the reporting limit or M DL, if M DL is specified.
 RPD Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NTH library.

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Boeing SSFL

Report Number: IM H 1522

Sampled: 08/26/03-08/27/03
 Received: 08/27/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Soil	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 8260B	Soil	X	X
EPA 8260B	Water	X	X

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

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



250 N. Madison Avenue
Pasadena, CA 91101
(626) 568-6310

225/HMI

Chain of Custody

Control Number: **COC MT 513**

Date 8/27/03 Page 1 of 1

Project Manager: ~~Dina Hensbott~~ GLENN AFFE
 Project Name: Boeing SSFL
 Project Number: 1810812. ~~0166 BK~~ 0116
 Deliver the results to the address above or as stated in contract

Cooler No.	
QC Level:	
TAT:	NORMAL

Bill To: Lowell Moffitt
Company: MWH
Address: 250 N. Madison Avenue, Pasadena, CA, 91101
300 N LAKE AVE, SUITE 1200

Date: 11/27/01 Page: 51

Sample Disposal Instructions:	Laboratory Disposal
Shipment Method:	
Comment:	BSE LANDFILL

[illegible]

Sample Data						
Sample ID	Description (for MWH use only)	SWMU	Depth	Date Collected	Time Collected	U/S Number
MT513	BLS12501	7.1	10	8/26/03	1520	7
MT514	BLS12502	7.1	3	8/26/03	1520	7
MT515	BLS11501	7.1	17	8/26/03	1200	3
MT516	TB082703	7.1		8/27/03	1500	A

[illegible]

8260B	X	
VOC	X	
8015BM	X	
TPH	X	
8270CSIM	X	
SVOC	X	
8270C	X	
SVOC	X	
8290	X	
DIOXINS	X	
8315A	X	
FORMALDEHYDE	X	
ORDNANCE	X	
6000/7000	X	
METALS	X	
7196A	X	
HEX CHROMIUM	X	
8082	X	
PCBS	X	
9040B/9045C	X	
pH	X	
340.2	X	
FLUORIDE	X	
300M	X	
ANIONS	X	
300M	X	
HYDRAZINE	X	
300M	X	
PERCHLORATES	X	
SAMPLING METHOD	X	
EXTRA VOLUME	X	
MS/MSD	X	
HOLD	X	
TOTAL # OF BOTTLES	3	2

Sampler's Signature:	<i>Bonny Blay</i>	Date	8/27/03	Time	1445
Relinquished By:	<i>Thomas Smith</i>	Date	8-27-03	Time	1520
Received By:	<i>Gay Schaper</i>	Date	8-27-03	Time	1520
Relinquished By:	<i>Gay Schaper</i>	Date	8-27-03	Time	1825
Received By (LAB):	<i>K. Davis</i>	Date	8/27/03	Time	1825

For Lab Use	Comments: AS NEEDED ANALYZE FOR TCUP AND/OR SLC FOR HAZARDOUS WASTE CHARACTERIZATION A ALL VOC'S RUN WITH ENCORE SAMPLERS
Lab Number: Does COC match samples: ☒ or ☐ N Broken container: ☐ Y or ☒ N Received within holding time: ☒ Y or ☐ N COC Seal Intact: ☐ Y or ☐ N Any other problems: ☐ Y or ☒ N If any YES, MWH contacted: ☐ Y or ☐ N Date Contacted : / / Temperature °C	

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



1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 09/04/2003

Tel: 619-699-4124
Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao
sign: Edmund Sarao

Subject: Chain-of-Custody Form Analytical
Request Change

No. of Pages: 2
(including cover)

Per Request:

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

COC No.	EPA Sample ID	Original MWH Sample ID	Date Collected	Change (s) Now Requested
MT513	MT516	TB082703	08/27/2003	Change MWH ID from "TB082703" to "BLQW07T01"

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

 X

Thank you.



LABORATORY REPORT

Prepared For: M W H -San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project: Building 56 Landfill
Boeing SSFL

Sampled: 08/22/03
Received: 08/22/03
Issued: 10/16/03

NELAP #01108CA

CA ELAP #1197

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This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.

HOLDING TIMES: Holding times were met.

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 U-flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included with this report.

ADDITIONAL INFORMATION: The EPA 8082 results for sample IM H 1307-01 (MT504) may be biased high due to coelution of the two aroclors.

LABORATORY ID

IM H 1307-01

IM H 1307-02

CLIENT ID

MT504

MT505

MATRIX

Soil

Soil



Del Mar Analytical, Irvine
Michele Harper
Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM H 1307

Sampled: 08/22/03
 Received: 08/22/03

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID : M T504 (IM H 1307-01) - Soil EPA 9045C	1	08/22/2003 08:15	08/22/2003 19:00	08/23/2003 15:15	08/23/2003 16:15
Sample ID : M T505 (IM H 1307-02) - Soil EPA 9045C	1	08/22/2003 12:00	08/22/2003 19:00	08/23/2003 15:15	08/23/2003 16:15

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM H 1307

Sampled: 08/22/03
 Received: 08/22/03

DATA QUALIFIERS AND DEFINITIONS

J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
M -HA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M 1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M 2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
N -1	See case narrative.
R -3	The RPD exceeded the method control limit due to sample matrix effects.
Z 3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
 The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA NIST library.

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

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

M W H -San Diego
 1230 Columbia Street, Suite 750
 San Diego, CA 92101
 Attention: Lisa J. Tucker

Project ID : Building 56 Landfill
 Boeing SSFL
 Report Number: IM H 1307

Sampled: 08/22/03
 Received: 08/22/03

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	NELAP	CA
EPA 160.3 MOD	Solid	N/A	N/A
EPA 3545/8082	Soil	X	X
EPA 6010B	Soil	X	X
EPA 7471A	Soil	X	X
EPA 8015 MOD.	Soil	X	X
EPA 8260B	Soil	X	X
EPA 9045C	Soil	X	X

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

Subcontracted Laboratories

Calscience-SUB CA ELAP Cert#1230

7440 Lincoln Way - Garden Grove, CA 92841

Analysis Performed: 8270C (SIM)

Samples: IM H 1307-01, IM H 1307-02

EMS-SUB CA ELAP Cert#1119

117 W. Bellevue Drive - Pasadena, CA 91105

Analysis Performed: Asbestos By PLM

Samples: IM H 1307-01, IM H 1307-02

Del Mar Analytical, Irvine

Michelle Harper

Project Manager

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	FRIABLE	BROWN GRANULAR	AMOSITE LESS THAN 1%	NONE DETECTED	GRANULAR MINERALS OPAQUES
IMH1307-02 MT505	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 be detected by PLM. Confirmation by X-Ray diffraction or TEM is recommended by EPA (Federal Register Vol. 59, No. 146).

PG 1

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 Asbestos By TEM	Sampled: 08/22/03 08:15 08/24/03 08:15	Subcontract to EMS Labs
Containers Supplied: Brass Sleeve (IMH1307-01B)		

Sample ID: IMH1307-02 Soil Asbestos By TEM	Sampled: 08/22/03 12:00 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

8-25-03 1445

8-25-03 1600

Received By

8-25-03 1445

8-25-03 4pm

PAGE 1 OF 1

RELINQUISHED BY

TIME / DATE

► DATE OF SHIPMENT

► CLIENT P.O. NO.

▶ CLIENT JOB/PROJECT ID NO(S).

◆ PACKAGE SHIPPED FROM

VERBAL

FAX

◆ CLIENT FAX NO.

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

♦ **Laboratory No.**

Received By _____

Time

◆ **Date of Package Delivery.**

◆ **Shipping Bill Retained:**

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

FOR EMS ONLY



MONTGOMERY WATSON HARZA

ImH1307

Control Number: **COC** *MT 5141*

Date 8/22/03 page 1 of 1

Bill To:	Lowell Moffitt
Company:	MWH
Address:	256 N. Madison Avenue, Pasadena, CA, 91101 300 N. LAKE AVE., SUITE 1200

Date: 8/1/00 Page 1 of 1

Sample Disposal Instructions: Laboratory Disposal

Shipment Method: LAB PICK-UP

Comment: B56 LANDFILL

Preservatives

[illegible][illegible]

Sampers Signature:	Date	Time
<i>[Signature]</i>	8/22/03	14:38
Relinquished By:	Date	Time
<i>[Signature]</i>	8/22/03	15:50
Received By:	Date	Time
<i>[Signature]</i>	8/22/03	15:30
Relinquished By:	Date	Time
<i>[Signature]</i>	8-22-03	19:00
Received By (LAB):	Date	Time
<i>[Signature]</i>	8-22-03	19:00

For Lab Use	
Lab Number:	
Does COC match samples:	☒ Y or ☐ N
Broken container:	Y or ☒ N
Received within holding time:	☒ Y or ☐ N
COC Seal intact:	Y or ☐ N
Any other problems:	Y or ☐ N
If any YES, MWH contacted:	Y or ☐ N
Date Contacted:	1/1/02
Temperature °C	20°C
Comments:	AS NEEDED ANALYZE FOR TCLP AND/OR STLC FOR HAZARDOUS WASTE CHARACTERIZATION

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



CASE NARRATIVE

Client: MWH

Date Sampled: 08/22/03

Project: Building 56 Landfill Boeing SSFL

Date Received: 08/22/03

Lab: IMH1307

SAMPLE RECEIPT: Samples were received intact on ice and with chain of custody documentation. The sample temperature was measured at 4°C upon receipt at the laboratory.

HOLDING TIMES: All samples were analyzed within holding times.

PROBLEMS

ENCOUNTERED: No additional problems were encountered during sample analysis.

QA/QC CRITERIA: EPA 8015 Mod. sample IMH1307-01 required dilution due to the nature of the sample matrix. Because of this dilution, the surrogate "n-Octacosane" spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

EPA 3545/8082 sample IMH1307-01 and MS/MSD for QC batch 3H25055 required dilution due to the nature of the sample matrix. Because of this dilution, the surrogate "Decachlorobiphenyl" spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

The MS recovery for Aroclor 1260 was above acceptance limits due to sample matrix interference for EPA 3545/8082 QC batch 3H25055. The batch was accepted based on acceptable recovery in the LCS.

The MS/MSD recoveries for Aroclor 1016 and Aroclor 1260 were above acceptance limits due to sample matrix interference for EPA 3545/8082 QC batch 3H25055. The batch was accepted based on acceptable recovery in the LCS.

The results for sample IMH1307-01 (MT504) EPA 3545/8082 may be biased high due to coelution of the two aroclors 1254 and 1260.

The MS/MSD RPD for Aroclor 1260 exceeded the method control limits due to sample matrix effects for EPA 3545/8082 QC batch 3H25055.

Cobalt, Copper, and Zinc were detected in the Method Blank of QC batch 3H26071.

Due to high levels of Aluminum in sample IMH1258-02, the MS/MSD calculation does not provide useful spike recovery information for EPA 6010B QC batch 3H26071. The batch was accepted based on acceptable recovery in the LCS.

The MS/MSD recovery for Antimony was below acceptance limits due to sample matrix interference for EPA 6010B QC batch 3H26071. The batch was accepted based on acceptable recovery in the LCS.



CASE NARRATIVE

Client: MWH

Date Sampled: 08/22/03

Project: Building 56 Landfill Boeing SSFL

Date Received: 08/22/03

Lab: IMH1307

OBSERVATIONS: Results that fall between the MDL and RL are "J" flagged.

Extractable Fuel Hydrocarbons (C8-C30) were quantitated against a Diesel Fuel Standard.

For subcontract analysis:

EPA 8270C (SIM) analysis was performed at Calscience – Garden Grove, CA.

Asbestos By PLM analysis was performed at EMS – Pasadena, CA.

DEL MAR ANALYTICAL

Michele Harper
Project Manager

F A X**MWH**1230 Columbia Street, Suite 750
San Diego, California 92101-8536

Date: 08/25/03

Tel: 619-699-4124

Fax: 619-239-3895

To: Michele Harper / Del Mar Analytical

Fax No: 949-261-1228

From: Edmund Sarao

sign: Edmund SaraoSubject: Chain-of-Custody Form Analytical
Request ChangeNo. of Pages: 3
(including cover)**Per Request:**

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

COC No.	EPA Sample ID	Original MWH Sample ID	Date Collected	Method (s) Originally Requested	Method (s) and Changes Now Requested
MT500	MT504	BLBIN01S01	08/22/2003	TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)	TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C), ASBESTOS, Change MWH ID from "BLBIN01S01" to "BLBN01S01".
MT500	MT505	BLBIN02S01	08/22/2003	TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C)	TPH (8015BM), SVOC (8270SIM), Metals (6010/7000), PCB (8082), pH (9045C), ASBESTOS, Change MWH ID from "BLBIN02S01" to "BLBN02S01".

The reason for these changes:

Incorrectly marked on COC form

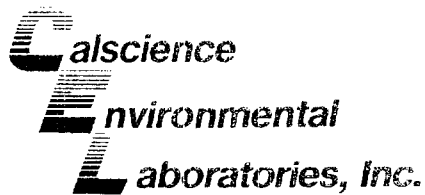
Lack of sample volume

MWH office personnel require this change

X

Other: Containers mislabeled

Thank you.



September 29, 2003

Michele Harper
Del Mar Analytical
2852 Alton Parkway
Irvine, CA 92606-5104

Subject: **Calscience Work Order No.:** 03-08-1341
Client Reference: IMH1307

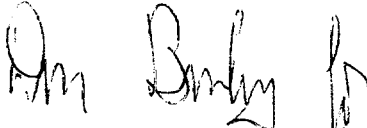
Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 8/25/2003 and analyzed in accordance with the attached chain-of-custody.

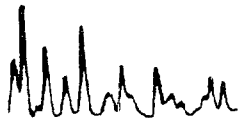
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows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

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

Sincerely,


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


Michael J. Crisostomo
Quality Assurance Manager

A handwritten signature in dark ink, appearing to be "Michael J. Crisostomo", located at the bottom left of the page.

Work Order Number: 03-08-1341

<u>Qualifier</u>	<u>Definition</u>
J	Analyte was detected at a concentration below the reporting limit. Reported value is estimated.
ND	Not detected at indicated reporting limit.

STL

STL Denver

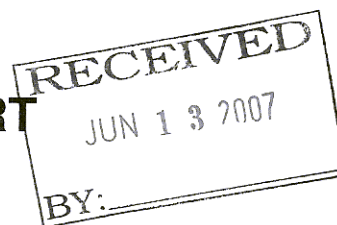
4955 Yarrow Street
Arvada, CO 80002

Tel: 303 736 0100 Fax: 303 431 7171
www.stl-inc.com

ANALYTICAL REPORT

SSFL / Boeing Group 8

Lot D7E180378



Lisa Tucker
MWH Americas
9444 Farnham Street, Suite 300
San Diego, CA 92123

Severn Trent Laboratories, Inc. / STL Denver

A handwritten signature in cursive script that reads "Michael P. Phillips".

Michael P. Phillips
Project Manager

June 6, 2007

Case Narrative

Enclosed is the report for four samples received at STL Denver on May 18, 2007. The results included in this report have been reviewed for compliance with STL's Laboratory Quality Manual. The test results shown in this report meet all requirements of NELAC and any exceptions are noted below.

This report may include reporting limits (RLs) less than STL Denver's standard reporting limit. The reported sample results and associated reporting limits are being used specifically to meet the needs of this project. Note that data are not normally reported to these levels without qualification because they are inherently less reliable and potentially less defensible than required by the latest industry standards.

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 interference 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.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Quality Control Summary for Lot D7E180378

Sample Receiving

The cooler temperature for the samples received on May 18, 2007 at the Denver laboratory was 2.3°C.

All sample containers were received in acceptable condition.

Dioxins/Furans – EPA 1613B

In some cases, due to the analyte concentrations present, several compounds are estimated at the maximum possible concentration. Associated results in the analytical report have been flagged with a "Q".

A low level of OCDD is present in the method blank associated with QC batch 7145343. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated results have been flagged with a "B".

No other anomalies were encountered.

PCBs – SW846 8082

No anomalies were encountered.

Total Metals – SW846 6010B and 7471A

The MS/MSD associated with QC batch 7141529 was performed using a sample from another client and/or lot and exhibited a MSD percent recovery and a relative percent difference outside the QC control limits for Mercury. Method precision and accuracy have been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

Fluoride – SW846 9056

No anomalies were encountered.

Total Solids – EPA 160.3

No anomalies were encountered.

PROJECT NARRATIVE

Lot Number: D7E180378

Method(s): SW-846 8290

Dioxin Analysis

All QC criteria were met.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is “the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point”. The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report the ML is qualitatively defined as described above, and quantitatively defined as follows: **Minimum Level:** The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the UCL described below.

The E qualifier is applied on the basis of the **Upper Calibration Level (UCL)**. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example:

The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example:

A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this examples all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a reportable level. For this analysis, there is no method specified reporting level, other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of 2.5-to-1. Therefore, the presence of any amount of the analyte present in the blank will result a B qualifier on all associated samples.

If the blank has analytes present above the ML (described above) the need for corrective action beyond qualifying the associated data is evaluated. The determination is made whether the amount in the blank is less than 5% of the lowest amount in associated client samples or regulatory limit. If this is the case, sample processing may continue with the qualification of the data. If the amount in the blank is greater than 5% of the lowest amount in associated client samples or regulatory limit, corrective action must be taken.

The corrective actions may include extracting a second aliquot of sample if available, or notifying the client to assess the impact on the project objectives.

Note: Some laboratories do not report contamination in the blank unless it is above their lower calibration limit, or an established percentage of the level in the samples, or an established percentage of the regulatory limit. Likewise, some laboratories set a reporting limit at one half the lower calibration limit.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. The criteria include the following areas:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio.)
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.

- Polychlorinated dibenzofuran purity. No peak can be identified as a polychlorinated dibenzofuran if a polychlorinated diphenyl ether peak maximizes within +/- 2 seconds of the furan candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity, due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer

X – Other. See explanation in narrative.

METHODS SUMMARY

D7E180378

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B	EPA-5 1613
Fluoride	SW846 9056	SW846 9056
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
PCBs by SW-846 8082	SW846 8082	SW846 3550B/366
Total Residue as Percent Solids	MCAWW 160.3 MOD	MCAWW 160.3 MOD

References:

- EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994
- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

METHOD / ANALYST SUMMARY

D7E180378

ANALYTICAL METHOD	ANALYST	ANALYST ID
EPA-5 1613B	Patricia (Trish) M. Parsly	050655
MCAWW 160.3 MOD	Kevin Bloom	006134
SW846 6010B	Lynn-Anne Trudell	006645
SW846 6010B	Lynn-Anne Trudell	6645
SW846 7471A	David Wells	5099
SW846 8082	Teresa L. Williams	002510
SW846 9056	Grant Henshaw	004878

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

D7E180378

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JXAPE	001	FSBS0093S01SP	05/17/07	07:57
JXAPF	002	FSBS0084S01SP	05/17/07	08:43
JXAPG	003	FSBS0086S01SP	05/17/07	09:12
JXAPH	004	BLBS0063S01SP	05/17/07	08:45

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

D7E180378

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SO	EPA-5 1613B		7145343	7145209
	SO	SW846 9056		7146065	7146056
	SO	SW846 7471A		7141529	7141331
	SO	SW846 8082		7141093	7141052
	SO	SW846 6010B		7142591	7142327
	SO	MCAWW 160.3 MOD		7143403	7145088
002	SO	SW846 9056		7146065	7146056
	SO	SW846 6010B		7142591	7142327
	SO	MCAWW 160.3 MOD		7141589	7145113
003	SO	SW846 9056		7146065	7146056
	SO	SW846 6010B		7142591	7142327
	SO	MCAWW 160.3 MOD		7141589	7145113
004	SO	SW846 9056		7146065	7146056
	SO	MCAWW 160.3 MOD		7141589	7145113

SEVERN TRENT LABORATORIES

ANALYTICAL REPORT

FOR

MECX, LLC

DENVER LOT ID D7E180378

Description of Supporting Documentation

The enclosed expanded raw data package is arranged in the order in which the initial calibration curve, internal quality control samples, and the samples for this lot were analyzed. Also included are any client requested batch quality control samples. When applicable, the data is organized alphabetically by instrument ID, then chronologically by analysis date.

GC/MS

- I. Organic Extraction Log Sheets
- II. Instrument Log Sheets
- III. Standard Data
 - A. Initial calibration raw data. Initial calibration raw data includes tuning data, the initial calibration summary (listing response factors, % RSDs), target compound reports, internal standard summaries, and chromatograms (RIC).
 - B. Continuing calibration raw data. Continuing calibration raw data includes tuning data, the continuing calibration summary (listing response factors, % Ds), target compound reports, initial standard summaries, and chromatograms (RIC).
- IV. Sample Data
 - A. Quality control sample raw data and sample raw data. Raw data includes the target compound report, IS summary, surrogate recovery report, chromatograms (RIC), spectra, and Tentatively Identified Compounds (TIC) report with library searches (when applicable).

GC

- I. Organic Extraction Log Sheets
- II. Instrument Log Sheets
- III. Standard Data
 - A. Initial calibration raw data. Initial calibration raw data includes the initial calibration summary, analysis report, and chromatograms for each column used in analysis.
 - B. Continuing calibration raw data. Continuing calibration raw data includes the continuing calibration summary, analysis report, and chromatograms for each column used in analysis.
- IV. Sample Data
 - A. Quality control sample raw data and sample raw data. Raw data includes the analysis report and chromatograms for each column.

Metals

- I. Preparation Logs
- II. ICP and/or ICP/MS Data
 - A. Computer printouts listing all calibrations.
 - B. Quality control sample raw data and sample raw data.
- III. CFAA and/or CVAA Raw Data
 - A. Analysis bench sheets listing all calibrations.
 - B. Quality control sample raw data and sample raw data.

Wet chemistry

- I. Preparation Logs
- II. Sample Data
 - A. Analysis bench sheets listing all calibration.
 - B. Quality control sample raw data and sample raw data.

Boeing

5/20/07
Boeing

CHAIN OF CUSTODY RECORD

COC #:

MMWHSV20070517_03
Page: 1 of 1

Customer Information			Project Information			Project Information			Instructions/TAT		
Site:	SSFL	Client Name:	DOE	Collector:	Shelby Valenzuela	Boeing PM:					
Company:	MMWH	Sampling Event:	Group 8 May 2007	Contact #:							
Report to:	Lisa Tucker	Project Number:	1891307-B056	Requested Analyses							
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:	STL-Denver								
Email:	lisa.tucker@mmwhglobal.com	Lab Contact:	Michael Phillips								
	boeingedms@ch2m.com	Lab Address:	4955 Yarrow								
			Arvada, CO 80002								
		Lab Phone:	(303) 736-0100								
Sample Name	Matrix	Date	Time	No. of Containers	% Solids - Soil	Fluoride by 300 - Soil					
BLBS0063S01SP	Soil	5/17/2007	8:45	1	5	5					
Comments											

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
<i>q/Barco</i>	5/17/2007	<i>[Signature]</i>	5/18/07				
Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:
MMWH	1/6/07	STC	08/05				
Comments:							
Geotracker EDF ☐ Data Validation Package ☒ Level IV							

MODERNO

CHAIN OF CUSTODY RECORD

COC #:

MMVHSV20070517_01

Page: 1 of 1

Customer Information				Project Information				Project Information				Instructions/TAT					
Site:	SSFL	Client Name:	DOE	Collector:	Shelby Valenzuela	Boeing PM:											
Company:	MMWH	Sampling Event:	Group 8 May 2007	Contact #:													
Report to:	Lisa Tucker	Project Number:	1891307	Requested Analyses													
Address:	9444 Farnham Street	Project Manager:	Diana Buchanan														
	Suite 300	PM Phone #:	(926) 568-6897														
	San Diego	Field Contact:															
	CA	Field Contact #:															
	92123	Lab Name:	STL-Denver														
Email:	lisa.tucker@mmwhglobal.com	Lab Contact:	Michael Phillips														
	boeingedms@ch2m.com	Lab Address:	4955 Yarrow														
			Arvada, CO 80002														
		Lab Phone:	(303) 736-0100														
Sample Name		Matrix	Date	Time	No. of Containers	% Solids - Soil	Dioxin by 1613B - Soil	Fluoride by 300 - Soil	Metals 6010B Soil Zirconium	Metals 7471A Soil Mercury	PCB by SW8082 - Soil						
FSBS0093S01SP	Soil		5/17/2007	7:57	2	5	5	5	5	5	5						
FSBS0084S01SP	Soil		5/17/2007	8:43	1	5	5	5	5	5							
FSBS0086S01SP	Soil		5/17/2007	9:12	2	5	5	5	5	5							

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
St Sano	5/17/2007		5/16/07				
Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:
MWH	1400	S12	0845				
Comments: Geotracker EDF ☐ Data Validation Package ☒ Level IV							

STL

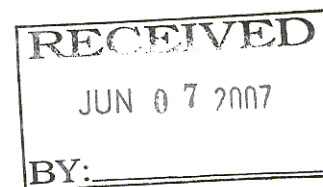
STL Denver
4955 Yarrow Street
Arvada, CO 80002

Tel: 303 736 0100 Fax: 303 431 7171
www.stl-inc.com

ANALYTICAL REPORT

SSFL / Boeing Group 8

Lot D7E170351



Lisa Tucker
MWH Americas
9444 Farnham Street, Suite 300
San Diego, CA 92123

Severn Trent Laboratories, Inc. / STL Denver

A handwritten signature in cursive script that reads "Michael P. Phillips".

Michael P. Phillips
Project Manager

June 4, 2007

Case Narrative

Enclosed is the report for two samples received at STL Denver on May 17, 2007. The results included in this report have been reviewed for compliance with STL's Laboratory Quality Manual. The test results shown in this report meet all requirements of NELAC and any exceptions are noted below.

This report may include reporting limits (RLs) less than STL Denver's standard reporting limit. The reported sample results and associated reporting limits are being used specifically to meet the needs of this project. Note that data are not normally reported to these levels without qualification because they are inherently less reliable and potentially less defensible than required by the latest industry standards.

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 interference 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 D7E170351

Sample Receiving

The cooler temperature for the samples received on May 17, 2007 at the Denver laboratory was 0.2°C.

All sample containers were received in acceptable condition.

Fluoride – SW846 9056

The Matrix Spike and Matrix Spike Duplicate performed using sample BLBS0058S01SP exhibited MS and MSD recoveries outside the control limits for Fluoride by SW846 9056. Because the corresponding Laboratory Control Samples and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

No other anomalies were encountered.

Total Solids – EPA 160.3

No anomalies were encountered.

METHODS SUMMARY

D7E170351

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Fluoride	SW846 9056	SW846 9056
Total Residue as Percent Solids	MCAWW 160.3 MOD	MCAWW 160.3 MOD

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical
Methods", Third Edition, November 1986 and its updates.

METHOD / ANALYST SUMMARY

D7E170351

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
MCAWW 160.3 MOD	Kevin Bloom	006134
SW846 9056	Grant Henshaw	004878

References:

MCAWW	"Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
SW846	"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

D7E170351

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JW7C8	001	BLBS0058S01SP	05/16/07	09:45
JW7DA	002	BLBS0060S01SP	05/16/07	11:00

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

D7E170351

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SO	SW846 9056		7144342	7144213
	SO	MCAWW 160.3 MOD		7141589	7145113
002	SO	SW846 9056		7144342	7144213
	SO	MCAWW 160.3 MOD		7141589	7145113

STL

General Chemistry

Standard LIMS Report

Lot ID: D7E170351

Method: SW846 9056, MCAWW 160.3 MOD

Associated Samples: 001, 001MS, 001MSD, 002

Batches: 7144342 and 7141589

METHOD BLANK REPORT

General Chemistry

Client Lot #...: D7E170351

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Fluoride	ND	Work Order #: JXMM71AA		MB Lot-Sample #:	D7E240000-342	
		10	mg/kg	SW846 9056	05/23-05/24/07	7144342
		Dilution Factor: 1				
		Analysis Time...: 01:25				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #....: D7E170351

Matrix.....: SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Fluoride		WO#:JXMM71AC-LCS/JXMM71AD-LCSD			LCS Lot-Sample#: D7E240000-342	
	99	(89 - 109)		SW846 9056	05/23-05/24/07	7144342
	99	(89 - 109)	0.13 (0-11)	SW846 9056	05/23-05/24/07	7144342
		Dilution Factor: 1		Analysis Time...: 00:51		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: D7E170351

Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Fluoride								
	50.0	49.7	mg/kg	99		SW846 9056	05/23-05/24/07	7144342
	50.0	49.7	mg/kg	99	0.13	SW846 9056	05/23-05/24/07	7144342

WO#:JXMM71AC-LCS/JXMM71AD-LCSD LCS Lot-Sample#: D7E240000-342

Dilution Factor: 1 Analysis Time.: 00:51

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: D7E170351

Matrix.....: SO

Date Sampled...: 05/16/07 09:45 Date Received...: 05/17/07

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Fluoride			WO#:	JW7C81AD-MS/JW7C81AE-MSD	MS Lot-Sample #:	D7E170351-001	
	88 N	(89 - 109)			SW846 9056	05/23-05/24/07	7144342
	88 N	(89 - 109)	0.02	(0-11)	SW846 9056	05/23-05/24/07	7144342
			Dilution Factor: 9.99				
			Analysis Time...: 02:48				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: D7E170351

Matrix.....: SO

Date Sampled...: 05/16/07 09:45 Date Received...: 05/17/07

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Fluoride			WO#: JW7C81AD-MS/JW7C81AE-MSD MS Lot-Sample #: D7E170351-001						
	1.2	51.2	46.2 N	mg/kg	88		SW846 9056	05/23-05/24/07	7144342
	1.2	51.2	46.2 N	mg/kg	88	0.02	SW846 9056	05/23-05/24/07	7144342
Dilution Factor: 9.99									
Analysis Time...: 02:48									

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

General Chemistry

Matrix.....: SOLID

% Moisture.....: 5.1

Dilution Factor: 1

Analysis Time.: 11:45

STL Denver
Sample Receiving Checklist

Lot #: D7E170351 Date/Time Received: 5/17/07 1230

Company Name & Sampling Site: MWH SSFL Group 8

PM to Complete This Section: Yes No
Residual chlorine check required: ☐ ☒ Quarantined: ☐ ☒

Quote #: 74421

Special Instructions:

Time Zone:
• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

Unpacking Checks:

Cooler #(s): 1
Temperatures (°C): 0.2
N/A Yes No

- Initials MB
- ☒ ☒ ☐ 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 # D7E170351

Login Checks:

N/A Yes No

Initials

AB

- ☒ ☐ 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. Were special archiving instructions indicated in the General Comments? If so, what were they?

5 months / permission

Labeling and Storage Checks:

Initials

W

- ☒ ☐ ☐ 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?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).

2007

MM/HSY/20070516 01

Customer Information			Project Information			Project Information				
Site:	SSFL	Client Name:	DOE	Collector:	Shelby Valenzuela	Boeing PM:				
Company:	MWH	Sampling Event:	Group 8 Hastings Data Gaps Sc	Contact #:						
Report to:	Lisa Tucker	Project Number:	1881307	Requested Analyses						
Address:	9444 Farnham Street	Project Manager:	Diana Buchanan	Legend: Numerical values for analyses equate to turn around time in days H - Hold EH - Extract Hold						
	Suite 300	PM Phone #:	(626) 568-6897							
	San Diego	Field Contact:								
	CA	Field Contact #:								
	92123	Lab Name:	STL-Denver							
Email:	lisa.tucker@mwhglobal.com	Lab Contact:	Michael Phillips	Fluoride by 300 - Soil % Solids - Soil						
	boeingdms@ch2m.com	Lab Address:	4955 Yarrow							
			Arvada, CO 80002							
		Lab Phone:	(303) 736-0100							
Sample Name		Matrix	Date	Time	No. of Containers					
BLBS005S01SP	Soil		5/16/2007	9:45	1	5	5			
BLBS006S01SP	Soil		5/16/2007	11:00	1	5	5			
						Comments				

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
<i>Edgar</i>	5/16/2007	<i>Sherry B. Smith</i>	5/17/07				
Company:	Time:	Company:	Time:	Company:	Time:	Company:	Time:
MMH	1600	STL	1230				
Comments: Geotracker EDF ☐ Data Validation Package ☒ Level IV							