Chain of Custody and Supporting Documentation

BOEING

CHAIN OF CUSTODY RECORD

2384621
COC #: 238480 JT 10/6/09

MWHAG20090930_00

Page: 1 of 2

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	A. Goldenberg	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Benjamin Stewart				
	CA	Field Contact #:	(818) 266-1378				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals 6020 Soil Copper	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water			Comments
EBQW2248	Water	9/30/2009	14:45	9			10		10			10			10		10			
HZBS0081AS001	Soil	9/30/2009	9:35	3	5					2	5		5	5		5				
HZBS0081AS002	Soil	9/30/2009	10:12	3	5					2	5		5	5		5				
HZBS0178S001	Soil	9/30/2009	11:15	3	5	5				2	5		5	5		5				
HZBS0178S002	Soil	9/30/2009	11:30	3	5	5				2	5		5	5		5				
HZBS0179S001	Soil	9/30/2009	12:40	3	5	5				2	5		5	5		5				
HZBS0179S002	Soil	9/30/2009	12:50	3	5	5				2	5		5	5		5				
HZET0718S001	Soil	9/30/2009	13:15	2	5	5		2												
HZET0719S001	Soil	9/30/2009	13:35	2	5	5		2												
HZET0720S001	Soil	9/30/2009	13:55	2	5	5		2												

Requested Analyses

Instructions/TAT

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
Allen M. Rotter	9-30-09		10/1/09				
Company: MWH	Time: 16:51	Company: GEL	Time: 0835	Company:	Time:	Company:	Time:

Comments: Sample volume for dioxin analysis shipped directly to CFA, sample volume for metals analysis shipped to GEL

Geotracker EDF ☐

Data Validation Package ☑ Level IV

238462H

BOEING

CHAIN OF CUSTODY RECORD

COC #: ~~238462~~ JT 10/6/09 MWHAG20090930_00

Page: 2 of 2

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	A. Goldenberg	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Benjamin Stewart				
	CA	Field Contact #:	(818) 266-1378				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals 6020 Soil Copper	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water			Comments
HZET0721S001	Soil	9/30/2009	14:05	2	5	5		2												
HZET0722S001	Soil	9/30/2009	14:16	2	5	5		2												
HZET0723S001	Soil	9/30/2009	14:25	2	5	5		2												
HZET0724S001	Soil	9/30/2009	13:30	2	5	5		2												
HZET0725S001	Soil	9/30/2009	13:25	2	5	5		2												

Instructions/TAT

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
Allen M. Pott	9-30-09		10/1/09				
Company: MWH	Time: 16:51	Company: GEL	Time: 0835	Company:	Time:	Company:	Time:

Comments: Sample volume for dioxin analysis shipped directly to CFA, sample volume for metals analysis shipped to GEL

Geotracker EDF ☐

Data Validation Package ☑ Level IV

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SSFL	SDG/ARCOC/Work Order: ~~238462~~ 238462H 01 10/6/09
Received By: SL	Date Received: 10/1/09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: 80 cpm
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?	✓			Preservation Method: ice bags blue ice dry ice none other (describe) 2,40
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?			✓	Circle Applicable: seals broken damaged container leaking container other (describe) 3 Amber 1 L bottles of EBQW2248 arrived broken.
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?			✓	Sample ID's affected: Received only 2 containers of HZBS01785001/2 and HZBS01795001/2 and only 1 container of HZET0718-0725.
12	COC form is properly signed in relinquished/received sections?	✓			

Comments: 9457 3163 0810 40
9457 3163 0832 20

PM (or PMA) review: Initials JT Date 10/1/09

2384621

~~2382234~~ OT 10/6/09

BOEING

CHAIN OF CUSTODY RECORD

COC #: MWHBM20091001_00

Page: 1 of 2

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	B. Martasin	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Brian Martasin				
	CA	Field Contact #:	(323) 304-4969				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

	Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water				Comments
	Requested Analyses																				Instructions/TAT
1	EBQW2249	Water	10/1/2009	15:30	9			10	10			10			10		10				
2	HVBF33AS01	Soil	10/1/2009	10:18	2	5	5				5			5		5					
2	HVBF33AS02	Soil	10/1/2009	10:40	2	5	5				5			5		5					
3	HZBS0080AS001	Soil	10/1/2009	14:35	3	5				2	5		5	5		5					
	HZBS0080AS002	Soil	10/1/2009	14:45	3	5				2	5		5	5		5					
	HZBS0082AS001	Soil	10/1/2009	8:30	3	5				2	5		5	5		5					
	HZBS0082AS002	Soil	10/1/2009	9:05	3	5				2	5		5	5		5					
	HZBS0084AS001	Soil	10/1/2009	7:50	3	5				2	5		5	5		5					
	HZBS0084AS002	Soil	10/1/2009	8:15	3	5				2	5		5	5		5					
✓	HZBS0123AS001	Soil	10/1/2009	13:15	3	5				2	5		5	5		5					

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/1/09	R.M. Stelling	10/2/09				
Company: MWH	Time: 1445	Company: GEL	Time: 915	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

BOEING 238462H

CHAIN OF CUSTODY RECORD

COC #: MWHBM20091001_00

Page: 2 of 2

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	B. Martasin	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Brian Martasin				
	CA	Field Contact #:	(323) 304-4969				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

						Requested Analyses														Instructions/TAT
	Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water				Legend: Numerical values for analyses equate to turn around time in days H - Hold EH - Extract/Extrude & Hold Note: Values in the cells bellow are Turn Around Times.
																				Comments
3 ✓	HZBS0123AS002	Soil	10/1/2009	13:30	3	5				2	5		5	5		5					
3	HZBS0124AS001	Soil	10/1/2009	11:00	3	5				2	5		5	5		5					
3 ✓	HZBS0124AS002	Soil	10/1/2009	12:30	3	5				2	5		5	5		5					
2 ✓	HZBS0175S001	Soil	10/1/2009	13:50	3	5	5			2	5		5	5		5					
✓	HZBS0175S002	Soil	10/1/2009	14:10	3	5	5			2	5		5	5		5					
	HZBS0177S001	Soil	10/1/2009	15:00	3	5	5			2	5		5	5		5					
	HZBS0177S002	Soil	10/1/2009	15:15	3	5	5			2	5		5	5		5					
	HZBS0180S001	Soil	10/1/2009	9:30	3	5	5			2	5		5	5		5					
	HZBS0180S002	Soil	10/1/2009	10:00	3	5	5			2	5		5	5		5					

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/1/09	R.M. Stelling	10/2/09				
Company: MWH	Time: 1445	Company: GEL	Time: 915	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

2384624

Client: SSF1	SDG/ARCOC/Work Order: 238234 JT 10161109
Received By: AMS	Date Received: 10/3/09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*:
Classified Radioactive II or III by RSO?		✓	30 cpm
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items).
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?	✓			Preservation Method: (ice bags) blue ice dry ice none other (describe) 2.7, 3°
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?			✓	Circle Applicable: seals broken (damaged container) leaking container other (describe) received (2) broken Amber 1L ID: EBRW2249
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	✓			Sample ID's and containers affected:
7	Are Encore containers present?	✓			(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:
Fx: 9457 5163 0800
" " 0795
" 3159 3957

PM (or PMA) review: Initials AMS Date 10/2/09

Subject: dioxin add-ons
From: Sarah Von Raesfeld <Sarah.E.VonRaesfeld@us.mwhglobal.com>
Date: Tue, 6 Oct 2009 13:52:57 -0600
To: Jackie Trudell <jacqueline.trudell@gel.com>
CC: Sean Leffler <Sean.S.Leffler@us.mwhglobal.com>

Hi Jackie,

Please analyze dioxins on a 5 day TAT for the following samples:

HZBS0080AS002 (238234005)
HZBS0081AS002 (238180003)
HZBS0084AS002 (238234009)
HZBS0123AS002 (238234011)
HZBS0124AS002 (238234013)

Thanks,
Sarah

MWH

BUILDING A BETTER WORLD

Sarah Von Raesfeld
Environmental Chemist
MWH Americas, Inc.
2121 N. California Blvd.
Suite 600
Walnut Creek, California 94596

Telephone: 925 627 4500
Direct Line: 925 627 4654
Facsimile: 925 627 4501

Date: 10/8/09

Requesting Firm: MWH
Address: 9444 Farnham Suite 300
San Diego, CA 92123
Phone: 858-751-1217
Fax: 858-751-1201
E-mail: Sean.leffler@mwhglobal.com

To: Jackie Trudell **Phone: 843-769-7388**

Laboratory GEL Laboratories, LLC **E-mail:** jacqueline.trudell@gel.com

From: Sean Leffler

Requestor signature:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 3**

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

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHAG20090930_00	HZBS0081AS002	9/30/09		Add dioxins (5 day TAT)

The reason for these changes:

Incorrectly marked on COC form	
Lack of sample volume	
Change in analytical request	*X*
Other:	

Thank you

BOEING

CHAIN OF CUSTODY RECORD

COC #: MWHAG20090930_00

238180

Page: 1 of 2

Customer Information		Project Information	
Site:	SSFL	Client Name:	Boeing
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl
	Suite 600	PM Phone #:	(925) 627-4627
	Walnut Creek	Field Contact:	Benjamin Stewart
	CA	Field Contact #:	(818) 266-1378
	94596	Lab Name:	GEL Laboratories, LLC
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road
			Charleston, SC 29407
		Lab Phone:	(843) 769-7388

Project Information			
Collector:	A. Goldenberg	Boeing PM:	
Contact #:			

Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals 6020 Soil Copper	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water			Comments
Requested Analyses																				Instructions/TAT
EBQW2248	Water	9/30/2009	14:45	9			10		10			10			10		10			
HZBS0081AS001	Soil	9/30/2009	9:35	3	5					2	5		5	5		5				
HZBS0081AS002	Soil	9/30/2009	10:12	3	5	5	(1)			2	5		5	5		5				
HZBS0178S001	Soil	9/30/2009	11:15	3	5	5				2	5		5	5		5				
HZBS0178S002	Soil	9/30/2009	11:30	3	5	5				2	5		5	5		5				
HZBS0179S001	Soil	9/30/2009	12:40	3	5	5				2	5		5	5		5				
HZBS0179S002	Soil	9/30/2009	12:50	3	5	5				2	5		5	5		5				
HZET0718S001	Soil	9/30/2009	13:15	2	5	5		2												
HZET0719S001	Soil	9/30/2009	13:35	2	5	5		2												
HZET0720S001	Soil	9/30/2009	13:55	2	5	5		2												

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
Allen M. Ruth	9-30-09		10/1/09				
Company: MWH	Time: 16:51	Company: GEL	Time: 0835	Company:	Time:	Company:	Time:

Comments: Sample volume for dioxin analysis shipped directly to CFA, sample volume for metals analysis shipped to GEL

Geotracker EDF ☐

Data Validation Package ☑ Level IV

(1) SSL 10/8/09

BOEING

CHAIN OF CUSTODY RECORD

COC #: 236160

MWHAG20090930_00

Page: 2 of 2

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	A. Goldenberg	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Benjamin Stewart				
	CA	Field Contact #:	(818) 266-1378				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals 6020 Soil Copper	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water	f		Comments
HZET0721S001	Soil	9/30/2009	14:05	2	5	5		2												
HZET0722S001	Soil	9/30/2009	14:16	2	5	5		2												
HZET0723S001	Soil	9/30/2009	14:25	2	5	5		2												
HZET0724S001	Soil	9/30/2009	13:30	2	5	5		2												
HZET0725S001	Soil	9/30/2009	13:25	2	5	5		2												

Requested Analyses

Instructions/TAT

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
Allan M. Ford	9-30-09		10/1/09				
Company: MWH	Time: 16:51	Company: GEL	Time: 0835	Company:	Time:	Company:	Time:

Comments: Sample volume for dioxin analysis shipped directly to CFA, sample volume for metals analysis shipped to GEL

Geotracker EDF ☐

Data Validation Package ☑ Level IV

Date: 10/8/09

Requesting Firm: MWH
Address: 9444 Farnham Suite 300
San Diego, CA 92123
Phone: 858-751-1217
Fax: 858-751-1201
E-mail: Sean.leffler@mwhglobal.com

To: Jackie Trudell **Phone: 843-769-7388**

Laboratory GEL Laboratories, LLC **E-mail:** **jacqueline.trudell@gel.com**

From: Sean Leffler

Requestor signature:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 3**

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

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHBM20091001_00	HZBS0080AS002	10/1/09		Add dioxins (5 day TAT)
MWHBM20091001_00	HZBS0084AS002	10/1/09		Add dioxins (5 day TAT)
MWHBM20091001_00	HZBS0123AS002	10/1/09		Add dioxins (5 day TAT)
MWHBM20091001_00	HZBS0124AS002	10/1/09		Add dioxins (5 day TAT)

The reason for these changes:

Incorrectly marked on COC form _____

Lack of sample volume _____

Change in analytical request X

Other: _____

Thank you

BOEING 2382234

CHAIN OF CUSTODY RECORD

COC #: MWHBM20091001_00

Page: 1 of 2

Customer Information		Project Information	
Site:	SSFL	Client Name:	Boeing
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl
	Suite 600	PM Phone #:	(925) 627-4627
	Walnut Creek	Field Contact:	Brian Martasin
	CA	Field Contact #:	(323) 304-4969
	94596	Lab Name:	GEL Laboratories, LLC
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road
			Charleston, SC 29407
		Lab Phone:	(843) 769-7388

Project Information			
Collector:	B. Martasin	Boeing PM:	
Contact #:			

Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water				Comments
1 EBQW2249	Water	10/1/2009	15:30	9			10	10			10			10		10				
2 HVBF33AS01	Soil	10/1/2009	10:18	2	5	5				5			5		5					
2 HVBF33AS02	Soil	10/1/2009	10:40	2	5	5				5			5		5					
3 HZBS0080AS001	Soil	10/1/2009	14:35	3	5				2	5		5	5		5					
HZBS0080AS002	Soil	10/1/2009	14:45	3	5	5 (1)			2	5		5	5		5					
HZBS0082AS001	Soil	10/1/2009	8:30	3	5				2	5		5	5		5					
HZBS0082AS002	Soil	10/1/2009	9:05	3	5				2	5		5	5		5					
HZBS0084AS001	Soil	10/1/2009	7:50	3	5				2	5		5	5		5					
HZBS0084AS002	Soil	10/1/2009	8:15	3	5	5 (1)			2	5		5	5		5					
HZBS0123AS001	Soil	10/1/2009	13:15	3	5				2	5		5	5		5					

Requested Analyses

Instructions/TAT

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

Comments

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/1/09	R.M. Stelling	10/2/09				
Company: MWH	Time: 1445	Company: GEL	Time: 915	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

(1) SSL 10/8/09

BOEING

CHAIN OF CUSTODY RECORD

COC #: MWHBM20091001_00

Page: 2 of 2

Customer Information		Project Information	
Site:	SSFL	Client Name:	Boeing
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl
	Suite 600	PM Phone #:	(925) 627-4627
	Walnut Creek	Field Contact:	Brian Martasin
	CA	Field Contact #:	(323) 304-4969
	94596	Lab Name:	GEL Laboratories, LLC
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road
			Charleston, SC 29407
		Lab Phone:	(843) 769-7388

Project Information			
Collector:	B. Martasin	Boeing PM:	
Contact #:			

Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water				Comments
.3 HZBS0123AS002	Soil	10/1/2009	13:30	3	5	5	D		2	5		5	5		5					
.3 HZBS0124AS001	Soil	10/1/2009	11:00	3	5				2	5		5	5		5					
.3 HZBS0124AS002	Soil	10/1/2009	12:30	3	5	5	D		2	5		5	5		5					
.2 HZBS0175S001	Soil	10/1/2009	13:50	3	5	5			2	5		5	5		5					
HZBS0175S002	Soil	10/1/2009	14:10	3	5	5			2	5		5	5		5					
HZBS0177S001	Soil	10/1/2009	15:00	3	5	5			2	5		5	5		5					
HZBS0177S002	Soil	10/1/2009	15:15	3	5	5			2	5		5	5		5					
HZBS0180S001	Soil	10/1/2009	9:30	3	5	5			2	5		5	5		5					
HZBS0180S002	Soil	10/1/2009	10:00	3	5	5			2	5		5	5		5					

Requested Analyses

Instructions/TAT

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/1/09	R.M. Stelling	10/2/09				
Company: MWH	Time: 1445	Company: GEL	Time: 915	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

OSSL 10/8/09

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name: ISRA Sampling, August 2009 **Start:** 8/24/2009 **End:** 9/30/2009

LTO DATE: **LTO NUMBER:**

Consultant Name:	MWH	**Contract Laboratory:**	GEL
Address:	2121 N. California Blvd. Ste. 600 Walnut Creek, CA 94596	Address:	2040 Savage Rd. Charleston, SC 29407
Contact Name:	Sarah Von Raesfeld	**Lab Contact Name:**	Jackie Trudell
Phone Number:	925-627-4654	Phone Number:	843-769-7388
Fax Number:	925-627-4501	Fax Number:	843-766-1178
E-mail Address:	Sarah.VonRaesfeld@mwhglobal.com	E-mail Address:	jacqueline.trudell@gel.com

SAMPLE CONTAINER ORDER FORM

Date Required:

Date Sample Pickup:

Ship Containers To:

Project Site _____ *(enter "X")*
Consultant Office _____ *(enter "X")*
Other Location (specify in comments) _____ *(enter "X")*

Container Information:

Trip Blank (VOA only) No *(Yes/No)*
Temp Blank (VOA Only) No *(Yes/No)*
DI Water Required? No *(Yes/No)*
MS/MSD Extra Bottles? No *(Yes/No)*

Sample Matrix:

Soil X *(select all applicable)*
Water X *(select all applicable)*
Vapor _____ *(select all applicable)*

Est. Total # of Samples: 175 Est. Total # of EDDs 40

Requested Analyses: **(Specify # of Samples)**

	Water	Soil	Contingent
Dioxins (1613B)	**15**	**124**	**0**
EPA 8015M (DRO)	--	--	--
EPA 8015M (JET FUEL)	--	--	--
EPA 8015M (CC)	--	--	--
TCE (8260B)	**5**	**12**	**0**
EPA 8270C SIM (SVOC)	--	--	--
EPA 8310 (PAH)	--	--	--
EPA 8082 (PCB)	**3**	**5**	**0**
Nickel (6020)	**5**	**10**	**0**
Chromium (6020)	**5**	**10**	**0**
Silver (6020)	**5**	**10**	**0**
Cadmium (6020)	**10**	**35**	**0**
Arsenic (6020)	**5**	**10**	**0**
% Moisture (D2216)	**0**	**170**	**0**
Lead (6020)	**10**	**65**	**0**
Copper (6020)	**10**	**75**	**0**
Zinc (6020)	**5**	**20**	**0**
Mercury by 7471A/7470A	**5**	**25**	**0**

LABORATORY REPORTING REQUIREMENTS

Project TAT:

Normal: X (10 Business days)
RUSH: 5 (Specify- 24 / 48 / 72HRS)
Other : _____ (Specify # of Days)
Report Due Date: _____

Special Reporting Requirements:

Contingent Analysis? No *(Yes/No)*
TIC (VOC) Required? No *(Yes/No)*
TIC (SVOC) Required? No *(Yes/No)*
Data Validation Pckge.: Tier III (Boeing Tier I, II or III)

Laboratory Results/Reports Deliverables:

Draft Results Fax?: _____ (Yes/No)
Draft Results E-mail?: Yes (Yes/No)

Specify Fax/E-mail Contact Name, #, E-mail Address: Sarah.VonRaesfeld@mwhglobal.com

Send Original Reports To:

Project Site _____ *(enter "X")*
Consultant Office _____ *(enter "X")*
Other Location (specify in comments) X *(enter "X")*
# of Copies Reports Req.: 1

SPECIAL INSTRUCTIONS/LTO NOTES

CONFIRMATION OF TRANSMITTAL & RECEIPT

LTO Sent By:

Name: Sarah Von Raesfeld
Date: 09/02/09

LTO Received By-

Name: _____
Date: _____

Table of Contents

Case Narrative

Case Narrative
for
Boeing - SSFL (MWH)
Work Order: 238462
SDG: 238462H

October 12, 2009

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample Receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on October 01, 2009 and October 02, 2009 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following samples:

Laboratory Identification	Sample Description
238462001	HZBS0081AS002
238462002	HZBS0080AS002
238462003	HZBS0084AS002
238462004	HZBS0123AS002
238462005	HZBS0124AS002

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Dioxins (Cape Fear Analytical).

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Jacqueline A Trudell

Jacqueline Trudell
Project Manager

Data Qualifiers Definitions

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

Laboratory Certifications

List of current GEL Certifications as of 12 October 2009

State	Certification
Arizona	AZ0668
Arkansas	88−0651
CLIA	42D0904046
California − NELAP	01151CA
Colorado	GEL
Connecticut	PH−0169
Dept. of Navy	NFESC 413
EPA Region 5	WG−15J
Florida − NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois − NELAP	200029
Indiana	C−SC−01
Kansas − NELAP	E−10332
Kentucky	90129
Louisiana − NELAP	03046
Maryland	270
Massachusetts	M−SC012
Nevada	SC00012
New Jersey − NELAP	SC002
New Mexico	FL NELAP E87156
New York − NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania − NELAP	68−00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas − NELAP	T104704235−07B−TX
U.S. Dept. of Agriculture	S−52597
Utah − NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 238462H

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	238462H
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	5
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	*Lab Sample Name*	*Sub-Lab Sample Name*	*Matrix*	*Collection*	*Method*
HZBS0080AS002	1091001	N/A	SOIL	10/1/2009 2:45:00 PM	1613B
HZBS0081AS002	1091005	N/A	SOIL	9/30/2009 10:12:00 AM	1613B
HZBS0084AS002	1091002	N/A	SOIL	10/1/2009 8:15:00 AM	1613B
HZBS0123AS002	1091003	N/A	SOIL	10/1/2009 1:30:00 PM	1613B
HZBS0124AS002	1091004	N/A	SOIL	10/1/2009 12:30:00 PM	1613B

II. Sample Management

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

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
T-III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: P. Meeks
Date Reviewed: December 4, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (08/02).

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

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

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

- Blanks: The soil method blank had detects or estimated maximum possible concentration (EMPCs) for all target compounds except 2,3,7,8-TCDD and total TCDD. Detects in the soil samples less than the reporting limit or less than 5× the method blank detect were qualified as nondetected, "U," at the EDL if detected below the EDL or at the level of contamination if detected above the EDL. When total concentrations were the same as the individual isomer concentration, the total was also qualified as nondetected, "U," at the reporting limit if detected below the reporting limit or at the level of contamination if detected above. All remaining totals, except total TCDD, were qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613. The RPDs were within the laboratory-established control limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on HZBS0080AS002. Recoveries and RPDs were within the laboratory-established control limits.

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

    - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank associated with the samples in this SDG; however, the sample was not analyzed for dioxins. The samples in this SDG had no associated equipment rinsate.

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

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

- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The laboratory performed confirmation analyses for 2,3,7,8-TCDF. When the original result was reported as an EMPC, the original result was rejected, "R," in favor the confirmation result. In these cases, the total TCDD result was changed by the reviewer to match the confirmation 2,3,7,8-TCDD result. When the original result was not reported as an EMPC, or if both the original analysis and the confirmation analysis were both reported as EMPCs, the confirmation result was rejected, "R," in favor of the initial result.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. EMPCs were identified in the sample of this SDG, as denoted by the laboratory "K," code. For individual isomers identified as EMPCs, the results were qualified as estimated nondetects, "UJ." When total concentrations were the same as the sum of the individual isomer concentration, the total was qualified as an estimated nondetect, "UJ," at the reporting limit if detected below the reporting limit or at the level of contamination if detected above. All remaining totals, except total TCDD, were qualified as estimated, "J," as only a portion of the total was identified as an EMPC. The laboratory calculated and reported compound-specific detection limits. Any detect below the laboratory lower calibration level was qualified as estimated, "J." Nondetects are valid to the estimated detection limit (EDL).

Validated Sample Result Forms: 238462H

Analysis Method 1613B

Sample Name HZBS0080AS002 **Matrix Type:** Soil **Result Type:** Primary Result

Lab Sample Name: 1091001 **Sample Date:** 10/1/2009 2:45:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	0.306	4.5	0.306	pg/g	U	U	
1,2,3,4,6,7,8-HpCDF	67562394	0.151	4.5	0.151	pg/g	U	U	
1,2,3,4,7,8,9-HpCDF	55673897	0.298	4.5	0.298	pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.156	4.5	0.156	pg/g	U	U	
1,2,3,4,7,8-HxCDF	70648269	0.117	4.5	0.117	pg/g	U	U	
1,2,3,6,7,8-HxCDD	57653857	0.176	4.5	0.176	pg/g	U	U	
1,2,3,6,7,8-HxCDF	57117449	0.123	4.5	0.123	pg/g	U	U	
1,2,3,7,8,9-HxCDD	19408743	0.174	4.5	0.174	pg/g	U	U	
1,2,3,7,8,9-HxCDF	72918219	0.185	4.5	0.185	pg/g	U	U	
1,2,3,7,8-PeCDD	40321764	0.119	4.5	0.119	pg/g	U	U	
1,2,3,7,8-PeCDF	57117416	0.093	4.5	0.093	pg/g	U	U	
2,3,4,6,7,8-HxCDF	60851345	0.127	4.5	0.127	pg/g	U	U	
2,3,4,7,8-PeCDF	57117314	4.5	4.5	4.5	pg/g	JK	UJ	*III, result changed from 0.12 and EDL from 0.0955
2,3,7,8-TCDD	1746016	0.145	0.899	0.145	pg/g	U	U	
2,3,7,8-TCDF	51207319	0.899	0.899	0.899	pg/g	J	U	B, result changed from 0.273 and EDL from 0.0529
2,3,7,8-TCDF	51207319	0.266	0.899	0.166	pg/g	JK	R	D
OCDD	3268879	8.99	8.99	8.99	pg/g	J	U	B, result changed from 1.11 and EDL from 0.734
OCDF	39001020	0.752	8.99	0.752	pg/g	U	U	
Total HpCDD	37871004	0.306	4.5	0.306	pg/g	U	U	
Total HpCDF	38998753	0.151	4.5	0.151	pg/g	U	U	
Total HxCDD	34465468	0.156	4.5	0.156	pg/g	U	U	
Total HxCDF	55684941	0.117	4.5	0.117	pg/g	U	U	
Total PeCDD	36088229	0.119	4.5	0.119	pg/g	U	U	
Total PeCDF	30402154	4.5	4.5	4.5	pg/g	J	UJ	B, *III, result changed from 0.12 and EDL from 0.0861
Total TCDD	41903575	0.145	0.899	0.145	pg/g	U	U	
Total TCDFs	55722275	0.273	0.899	0.166	pg/g	J	J	B, $, result changed from 0.503

Analysis Method 1613B

Sample Name HZBS0081AS002 **Matrix Type:** Soil **Result Type:** Primary Result

Lab Sample Name: 1091005 **Sample Date:** 9/30/2009 10:12:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	0.339	4.58	0.339	pg/g	U	U	
1,2,3,4,6,7,8-HpCDF	67562394	0.166	4.58	0.166	pg/g	U	U	
1,2,3,4,7,8,9-HpCDF	55673897	0.336	4.58	0.336	pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.174	4.58	0.174	pg/g	U	U	
1,2,3,4,7,8-HxCDF	70648269	0.12	4.58	0.12	pg/g	U	U	
1,2,3,6,7,8-HxCDD	57653857	0.193	4.58	0.193	pg/g	U	U	
1,2,3,6,7,8-HxCDF	57117449	0.123	4.58	0.123	pg/g	U	U	
1,2,3,7,8,9-HxCDD	19408743	0.193	4.58	0.193	pg/g	U	U	
1,2,3,7,8,9-HxCDF	72918219	0.187	4.58	0.187	pg/g	U	U	
1,2,3,7,8-PeCDD	40321764	0.138	4.58	0.138	pg/g	U	U	
1,2,3,7,8-PeCDF	57117416	4.58	4.58	4.58	pg/g	JK	UJ	*III, result changed from 0.125 and EDL from 0.099
2,3,4,6,7,8-HxCDF	60851345	0.129	4.58	0.129	pg/g	U	U	
2,3,4,7,8-PeCDF	57117314	0.104	4.58	0.104	pg/g	U	U	
2,3,7,8-TCDD	1746016	0.146	0.917	0.146	pg/g	U	U	
2,3,7,8-TCDF	51207319	0.917	0.917	0.917	pg/g	J	U	B, result changed from 0.27 and EDL from 0.178
2,3,7,8-TCDF	51207319	0.282	0.917	0.0644	pg/g	J	R	D
OCDD	3268879	0.836	9.17	0.836	pg/g	U	U	
OCDF	39001020	0.778	9.17	0.778	pg/g	U	U	
Total HpCDD	37871004	0.339	4.58	0.339	pg/g	U	U	
Total HpCDF	38998753	0.166	4.58	0.166	pg/g	U	U	
Total HxCDD	34465468	0.174	4.58	0.174	pg/g	U	U	
Total HxCDF	55684941	0.12	4.58	0.12	pg/g	U	U	
Total PeCDD	36088229	0.138	4.58	0.138	pg/g	U	U	
Total PeCDF	30402154	4.58	4.58	4.58	pg/g	J	UJ	B, *III, result changed from 0.125 and EDL from 0.099
Total TCDD	41903575	0.146	0.917	0.146	pg/g	U	U	
Total TCDFs	55722275	0.917	0.917	0.917	pg/g	J	U	B, result changed from 0.27 and EDL from 0.178

Analysis Method 1613B

Sample Name HZBS0084AS002 **Matrix Type:** Soil **Result Type:** Primary Result

Lab Sample Name: 1091002 **Sample Date:** 10/1/2009 8:15:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	4.61	4.61	4.61	pg/g	JK	UJ	*III, result changed from 0.569 and EDL from 0.371
1,2,3,4,6,7,8-HpCDF	67562394	4.61	4.61	4.61	pg/g	J	U	B, result changed from 0.369 and EDL from 0.18
1,2,3,4,7,8,9-HpCDF	55673897	4.61	4.61	4.61	pg/g	JK	UJ	*III, result changed from 0.358 and EDL from 0.353
1,2,3,4,7,8-HxCDD	39227286	4.61	4.61	4.61	pg/g	JK	UJ	*III, result changed from 0.325 and EDL from 0.201
1,2,3,4,7,8-HxCDF	70648269	0.321	4.61	0.132	pg/g	J	J	
1,2,3,6,7,8-HxCDD	57653857	4.61	4.61	4.61	pg/g	J	U	B, result changed from 1.56 and EDL from 0.231
1,2,3,6,7,8-HxCDF	57117449	4.61	4.61	4.61	pg/g	J	U	B, result changed from 0.661 and EDL from 0.141
1,2,3,7,8,9-HxCDD	19408743	4.61	4.61	4.61	pg/g	J	U	B, result changed from 2.05 and EDL from 0.225
1,2,3,7,8,9-HxCDF	72918219	4.61	4.61	4.61	pg/g	JK	UJ	*III, result changed from 0.417 and EDL from 0.221
1,2,3,7,8-PeCDD	40321764	4.61	4.61	4.61	pg/g	J	U	B, result changed from 0.38 and EDL from 0.221
1,2,3,7,8-PeCDF	57117416	4.61	4.61	4.61	pg/g	JK	UJ	*III, result changed from 0.306 and EDL from 0.108
2,3,4,6,7,8-HxCDF	60851345	4.61	4.61	4.61	pg/g	JK	UJ	*III, result changed from 0.36 and EDL from 0.142
2,3,4,7,8-PeCDF	57117314	4.61	4.61	4.61	pg/g	JK	UJ	*III, result changed from 0.353 and EDL from 0.119
2,3,7,8-TCDD	1746016	0.177	0.923	0.177	pg/g	U	U	
2,3,7,8-TCDF	51207319	0.338	0.923	0.0729	pg/g	JK	R	D
2,3,7,8-TCDF	51207319	0.923	0.923	0.923	pg/g	J	U	B, result changed from 0.377 and EDL from 0.203
OCDD	3268879	9.23	9.23	9.23	pg/g	J	U	B, result changed from 1.59 and EDL from 0.886
OCDF	39001020	9.23	9.23	9.23	pg/g	J	U	B, result changed from 1.02 and EDL from 1.02
Total HpCDD	37871004	4.61	4.61	4.61	pg/g	J	UJ	B, *III, result changed from 0.569 and EDL from 0.371
Total HpCDF	38998753	0.727	4.61	0.18	pg/g	J	J	B, *III
Total HxCDD	34465468	3.93	4.61	0.201	pg/g	J	J	B, *III
Total HxCDF	55684941	1.76	4.61	0.132	pg/g	J	J	B, *III
Total PeCDD	36088229	4.61	4.61	4.61	pg/g	J	U	B, result changed from 0.38 and EDL from 0.221
Total PeCDF	30402154	0.659	4.61	0.0941	pg/g	J	J	B, *III
Total TCDD	41903575	0.177	0.923	0.177	pg/g	U	U	
Total TCDFs	55722275	0.674	0.923	0.203	pg/g	J	J	B

Analysis Method 1613B

Sample Name HZBS0123AS002 **Matrix Type:** Soil **Result Type:** Primary Result

Lab Sample Name: 1091003 **Sample Date:** 10/1/2009 1:30:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	0.628	4.61	0.531	pg/g	J	J	
1,2,3,4,6,7,8-HpCDF	67562394	4.61	4.61	4.61	pg/g	JK	UJ	*III, result changed from 0.214 and EDL from 0.188
1,2,3,4,7,8,9-HpCDF	55673897	0.367	4.61	0.367	pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.193	4.61	0.193	pg/g	U	U	
1,2,3,4,7,8-HxCDF	70648269	0.141	4.61	0.141	pg/g	U	U	
1,2,3,6,7,8-HxCDD	57653857	0.201	4.61	0.201	pg/g	U	U	
1,2,3,6,7,8-HxCDF	57117449	0.145	4.61	0.145	pg/g	U	U	
1,2,3,7,8,9-HxCDD	19408743	0.208	4.61	0.208	pg/g	U	U	
1,2,3,7,8,9-HxCDF	72918219	0.223	4.61	0.223	pg/g	U	U	
1,2,3,7,8-PeCDD	40321764	0.172	4.61	0.172	pg/g	U	U	
1,2,3,7,8-PeCDF	57117416	0.143	4.61	0.143	pg/g	U	U	
2,3,4,6,7,8-HxCDF	60851345	0.144	4.61	0.144	pg/g	U	U	
2,3,4,7,8-PeCDF	57117314	0.149	4.61	0.149	pg/g	U	U	
2,3,7,8-TCDD	1746016	0.164	0.921	0.164	pg/g	U	U	
2,3,7,8-TCDF	51207319	0.311	0.921	0.0801	pg/g	JK	R	D
2,3,7,8-TCDF	51207319	0.921	0.921	0.921	pg/g	J	U	B, result changed from 0.356 and EDL from 0.201
OCDD	3268879	9.21	9.21	9.21	pg/g	JK	UJ	*III, result changed from 3.87 and EDL from 0.93
OCDF	39001020	0.928	9.21	0.928	pg/g	U	U	
Total HpCDD	37871004	1.67	4.61	0.531	pg/g	J	J	B
Total HpCDF	38998753	4.61	4.61	4.61	pg/g	J	UJ	B, *III, result changed from 0.214 and EDL from 0.188
Total HxCDD	34465468	0.193	4.61	0.193	pg/g	U	U	
Total HxCDF	55684941	0.26	4.61	0.141	pg/g	J	J	B
Total PeCDD	36088229	0.172	4.61	0.172	pg/g	U	U	
Total PeCDF	30402154	0.507	4.61	0.0912	pg/g	J	J	B
Total TCDD	41903575	0.164	0.921	0.164	pg/g	U	U	
Total TCDFs	55722275	0.632	0.921	0.201	pg/g	J	J	B

Analysis Method 1613B

Sample Name HZBS0124AS002 **Matrix Type:** Soil **Result Type:** Primary Result

Lab Sample Name: 1091004 **Sample Date:** 10/1/2009 12:30:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	0.419	4.68	0.419	pg/g	U	U	
1,2,3,4,6,7,8-HpCDF	67562394	0.195	4.68	0.195	pg/g	U	U	
1,2,3,4,7,8,9-HpCDF	55673897	0.382	4.68	0.382	pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.186	4.68	0.186	pg/g	U	U	
1,2,3,4,7,8-HxCDF	70648269	0.139	4.68	0.127	pg/g	J	J	
1,2,3,6,7,8-HxCDD	57653857	0.21	4.68	0.21	pg/g	U	U	
1,2,3,6,7,8-HxCDF	57117449	0.136	4.68	0.136	pg/g	U	U	
1,2,3,7,8,9-HxCDD	19408743	0.208	4.68	0.208	pg/g	U	U	
1,2,3,7,8,9-HxCDF	72918219	0.217	4.68	0.217	pg/g	U	U	
1,2,3,7,8-PeCDD	40321764	0.15	4.68	0.15	pg/g	U	U	
1,2,3,7,8-PeCDF	57117416	4.68	4.68	4.68	pg/g	JK	UJ	*III, result changed from 0.139 and EDL from 0.119
2,3,4,6,7,8-HxCDF	60851345	0.141	4.68	0.141	pg/g	U	U	
2,3,4,7,8-PeCDF	57117314	0.152	4.68	0.122	pg/g	J	J	
2,3,7,8-TCDD	1746016	0.169	0.936	0.169	pg/g	U	U	
2,3,7,8-TCDF	51207319	0.397	0.936	0.21	pg/g	JK	R	D
2,3,7,8-TCDF	51207319	0.936	0.936	0.936	pg/g	J	U	B, result changed from 0.32 and EDL from 0.0713
OCDD	3268879	0.99	9.36	0.99	pg/g	U	U	
OCDF	39001020	0.957	9.36	0.957	pg/g	U	U	
Total HpCDD	37871004	0.419	4.68	0.419	pg/g	U	U	
Total HpCDF	38998753	0.195	4.68	0.195	pg/g	U	U	
Total HxCDD	34465468	0.186	4.68	0.186	pg/g	U	U	
Total HxCDF	55684941	4.68	4.68	4.68	pg/g	J	U	B, result changed from 0.139 and MDL from 0.127
Total PeCDD	36088229	0.15	4.68	0.15	pg/g	U	U	
Total PeCDF	30402154	0.29	4.68	0.119	pg/g	J	J	B, *III
Total TCDD	41903575	0.169	0.936	0.169	pg/g	U	U	
Total TCDFs	55722275	0.32	0.936	0.21	pg/g	J	J	B, $, result changed from 0.667

Chain of Custody and Supporting Documentation

BOEING

CHAIN OF CUSTODY RECORD

2385543

COC #: MWHAG20091006_00

Page: 1 of 1

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	A. Goldenberg	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Benjamin Stewart				
	CA	Field Contact #:	(818) 266-1378				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

Sample Name	Matrix	Date	Time	No. of Containers	Requested Analyses: Asbestos 600/R-93/116 - Soil	D2216 Moisture Soil	Metals 6020 Soil Lead	PCB by SW8082 - Soil	Instructions/TAT	Comments
HZET0242S001	Soil	10/6/2009	10:10	1	3	5	5	5		
HZET1000S001	Soil	10/6/2009	10:30	1	3	5		5		
HZET1001S001	Soil	10/6/2009	10:35	1	3	5		5		
HZET1001S002	Soil	10/6/2009	10:38	1	3	5		5		

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
Allison M. Perth	10-6-09	Richard Anderson	10/7/09				
Company: MWH	Time: 16:25	Company: GEL	Time: 0845	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

5

GEL | Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SSFL	**SDG/ARCOC/Work Order:** 234543
Received By: Ricky Albee	**Date Received:** 10/7/09

Suspected Hazard Information	**Yes**	**No**	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: 90 cpm
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	**Yes**	**NA**	**No**	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?	✓			Preservation Method: (ice bags) blue ice dry ice none other (describe) yes
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		✓		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments: FedEx 9457 3163 0773

PM (or PMA) review: Initials JT Date 10/7/09

238543
~~238342~~ JT 10/7/09

BOEING

CHAIN OF CUSTODY RECORD

COC #: MWHAG20091005_00

Page: 1 of 1

Customer Information		Project Information	
Site:	SSFL	Client Name:	Boeing
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl
	Suite 600	PM Phone #:	(925) 627-4627
	Walnut Creek	Field Contact:	Brian Martasin
	CA	Field Contact #:	(323) 304-4969
	94596	Lab Name:	GEL Laboratories, LLC
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road
			Charleston, SC 29407
		Lab Phone:	(843) 769-7388

Project Information			
Collector:	A. Goldenberg	Boeing PM:	
Contact #:			

Sample Name	Matrix	Date	Time	No. of Containers	Requested Analyses: D2216 Moisture Soil	Metals 6020 Soil Lead	PCB by SW8082 - Soil
HZET0237S001	Soil	10/5/2009	13:55	1	3	2	3
HZET0238S001	Soil	10/5/2009	14:00	1	3	2	3
HZET0239S001	Soil	10/5/2009	14:18	1	3	2	3
HZET0240S001	Soil	10/5/2009	14:10	1	3	2	3
HZET0241S001	Soil	10/5/2009	14:05	1	3	2	3

Instructions/TAT

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

Comments

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/5/09		10/6/09				
Company: MWH	Time: 1525	Company: GEL	Time: 0930	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

GEL | Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

238543

Client: SSFL	**SDG/ARCOC/Work Order:** ~~238556~~ 238543 JT 10/7/09
Received By: Ricky Allee	**Date Received:** 10/6/09

Suspected Hazard Information	**Yes**	**No**	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: 40 cpm
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	**Yes**	**NA**	**No**	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?	✓			Preservation Method: (ice bags) blue ice dry ice none other (describe) foc
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		✓		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments: FedEx 9457 3163 0784

PM (or PMA) review: Initials JT Date 10/6/09

Subject: Asbestos add-on
From: Sarah Von Raesfeld <Sarah.E.VonRaesfeld@us.mwhglobal.com>
Date: Tue, 6 Oct 2009 14:25:48 -0600
To: Jackie Trudell <jacqueline.trudell@gel.com>
CC: Sean Leffler <Sean.S.Leffler@us.mwhglobal.com>

Hi Jackie,

Please run asbestos on a 3 day TAT for the following samples (collected 10/5):

HZET0237S001
HZET0238S001
HZET0239S001
HZET0240S001
HZET0241S001

Please log these samples with the ISRA samples you will be receiving tomorrow.

Thanks,
Sarah

MWH

BUILDING A BETTER WORLD

Sarah Von Raesfeld
Environmental Chemist
MWH Americas, Inc.
2121 N. California Blvd.
Suite 600
Walnut Creek, California 94596
Telephone: 925 627 4500
Direct Line: 925 627 4654
Facsimile: 925 627 4501

Date: 10/8/09

Requesting Firm: MWH
Address: 9444 Farnham Suite 300
San Diego, CA 92123
Phone: 858-751-1217
Fax: 858-751-1201
E-mail: Sean.leffler@mwhglobal.com

To: Jackie Trudell **Phone: 843-769-7388**

Laboratory GEL Laboratories, LLC **E-mail:** **jacqueline.trudell@gel.com**

From: Sean Leffler

Requestor signature:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 2**

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

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHAG20091005_00	HZET0237S001	10/5/09		Add asbestos 600/R-93/116
MWHAG20091005_00	HZET0238S001	10/5/09		Add asbestos 600/R-93/116
MWHAG20091005_00	HZET0239S001	10/5/09		Add asbestos 600/R-93/116
MWHAG20091005_00	HZET0240S001	10/5/09		Add asbestos 600/R-93/116
MWHAG20091005_00	HZET0241S001	10/5/09		Add asbestos 600/R-93/116

The reason for these changes:

Incorrectly marked on COC form	
Lack of sample volume	
Change in analytical request	*X*
Other:	

Thank you

238383

CHAIN OF CUSTODY RECORD

COC #: MWHAG20091005_00

Page: 1 of 1

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	A. Goldenberg	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Brian Martasin				
	CA	Field Contact #:	(323) 304-4969				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

Sample Name	Matrix	Date	Time	No. of Containers	Requested Analyses: D2216 Moisture Soil	Metals 6020 Soil Lead	PCB by SW8082 - Soil	Asbestos 600/R-93/116-Soil											Instructions/TAT / Comments
HZET0237S001	Soil	10/5/2009	13:55	1	3	2	3	3											
HZET0238S001	Soil	10/5/2009	14:00	1	3	2	3	3											
HZET0238S001	Soil	10/5/2009	14:18	1	3	2	3	3	(1)										
HZET0240S001	Soil	10/5/2009	14:10	1	3	2	3	3											
HZET0241S001	Soil	10/5/2009	14:05	1	3	2	3	3											

Instructions/TAT

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

Comments

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/5/09		10/6/09				
Company: MWH	Time: 1525	Company: GEL	Time: 0930	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

(1) SSL 10/8/09

11

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name: ISRA Sampling, August 2009 **Start:** 8/24/2009 **End:** 9/30/2009

LTO DATE: **LTO NUMBER:**

Consultant Name:	MWH	**Contract Laboratory:**	GEL
Address:	2121 N. California Blvd. Ste. 600 Walnut Creek, CA 94596	Address:	2040 Savage Rd. Charleston, SC 29407
Contact Name:	Sarah Von Raesfeld	**Lab Contact Name:**	Jackie Trudell
Phone Number:	925-627-4654	Phone Number:	843-769-7388
Fax Number:	925-627-4501	Fax Number:	843-766-1178
E-mail Address:	Sarah.VonRaesfeld@mwhglobal.com	E-mail Address:	jacqueline.trudell@gel.com

SAMPLE CONTAINER ORDER FORM

Date Required:

Date Sample Pickup:

Ship Containers To:

Project Site _____ *(enter "X")*
Consultant Office _____ *(enter "X")*
Other Location (specify in comments) _____ *(enter "X")*

Container Information:

Trip Blank (VOA only) No *(Yes/No)*
Temp Blank (VOA Only) No *(Yes/No)*
DI Water Required? No *(Yes/No)*
MS/MSD Extra Bottles? No *(Yes/No)*

Sample Matrix:

Soil X *(select all applicable)*
Water X *(select all applicable)*
Vapor _____ *(select all applicable)*

Est. Total # of Samples: 175 Est. Total # of EDDs 40

Requested Analyses: **(Specify # of Samples)**

	Water	Soil	Contingent
Dioxins (1613B)	**15**	**124**	**0**
EPA 8015M (DRO)	--	--	--
EPA 8015M (JET FUEL)	--	--	--
EPA 8015M (CC)	--	--	--
TCE (8260B)	**5**	**12**	**0**
EPA 8270C SIM (SVOC)	--	--	--
EPA 8310 (PAH)	--	--	--
EPA 8082 (PCB)	**3**	**5**	**0**
Nickel (6020)	**5**	**10**	**0**
Chromium (6020)	**5**	**10**	**0**
Silver (6020)	**5**	**10**	**0**
Cadmium (6020)	**10**	**35**	**0**
Arsenic (6020)	**5**	**10**	**0**
% Moisture (D2216)	**0**	**170**	**0**
Lead (6020)	**10**	**65**	**0**
Copper (6020)	**10**	**75**	**0**
Zinc (6020)	**5**	**20**	**0**
Mercury by 7471A/7470A	**5**	**25**	**0**

LABORATORY REPORTING REQUIREMENTS

Project TAT:

Normal: X (10 Business days)
RUSH: 5 (Specify- 24 / 48 / 72HRS)
Other : _____ (Specify # of Days)
Report Due Date:

Special Reporting Requirements:

Contingent Analysis? No *(Yes/No)*
TIC (VOC) Required? No *(Yes/No)*
TIC (SVOC) Required? No *(Yes/No)*
Data Validation Pckge.: Tier III (Boeing Tier I, II or III)

Laboratory Results/Reports Deliverables:

Draft Results Fax?: _____ (Yes/No)
Draft Results E-mail?: Yes (Yes/No)

Specify Fax/E-mail Contact Name, #, E-mail Address: Sarah.VonRaesfeld@mwhglobal.com

Send Original Reports To:

Project Site _____ *(enter "X")*
Consultant Office _____ *(enter "X")*
Other Location (specify in comments) X *(enter "X")*
# of Copies Reports Req.: 1

SPECIAL INSTRUCTIONS/LTO NOTES

CONFIRMATION OF TRANSMITTAL & RECEIPT

LTO Sent By:

Name: Sarah Von Raesfeld
Date: 09/02/09

LTO Received By-

Name:
Date:

Table of Contents

Case Narrative

Case Narrative
for
Boeing - SSFL (MWH)
Work Order: 238543
SDG: 238543

October 12, 2009

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample Receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on October 06, 2009 and October 07, 2009 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following samples:

Laboratory Identification	Sample Description
238543001	HZET0242S001
238543002	HZET1000S001
238543003	HZET1001S001
238543004	HZET1001S002
238543005	HZET0237S001
238543006	HZET0238S001
238543007	HZET0239S001
238543008	HZET0240S001
238543009	HZET0241S001

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: GC Semivolatile PCB,

Metals, Percent Moisture and Asbestos (EMLab P&K).

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Jacqueline Trudell

Project Manager

Data Qualifiers Definitions

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

Laboratory Certifications

List of current GEL Certifications as of 12 October 2009

State	Certification
Arizona	AZ0668
Arkansas	88−0651
CLIA	42D0904046
California − NELAP	01151CA
Colorado	GEL
Connecticut	PH−0169
Dept. of Navy	NFESC 413
EPA Region 5	WG−15J
Florida − NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois − NELAP	200029
Indiana	C−SC−01
Kansas − NELAP	E−10332
Kentucky	90129
Louisiana − NELAP	03046
Maryland	270
Massachusetts	M−SC012
Nevada	SC00012
New Jersey − NELAP	SC002
New Mexico	FL NELAP E87156
New York − NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania − NELAP	68−00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas − NELAP	T104704235−07B−TX
U.S. Dept. of Agriculture	S−52597
Utah − NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 238543

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	238543
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	9
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	*Lab Sample Name*	*Sub-Lab Sample Name*	*Matrix*	*Collection*	*Method*
HZET0237S001	238543005	2612716-1	Soil	10/5/2009 1:55:00 PM	EPA 600/R-93/116
HZET0238S001	238543006	2612717-1	Soil	10/5/2009 2:00:00 PM	EPA 600/R-93/116
HZET0239S001	238543007	2612718-1	Soil	10/5/2009 2:18:00 PM	EPA 600/R-93/116
HZET0240S001	238543008	2612719-1	Soil	10/5/2009 2:10:00 PM	EPA 600/R-93/116
HZET0241S001	238543009	2612720-1	Soil	10/5/2009 2:05:00 PM	EPA 600/R-93/116
HZET0242S001	238543001	2612712-1	Soil	10/6/2009 10:10:00 AM	6020, 8082, EPA 600/R-93/116
HZET1000S001	238543002	2612713-1	Soil	10/6/2009 10:30:00 AM	8082, EPA 600/R-93/116
HZET1001S001	238543003	2612714-1	Soil	10/6/2009 10:35:00 AM	8082, EPA 600/R-93/116
HZET1001S002	238543004	2612715-1	Soil	10/6/2009 10:38:00 AM	8082, EPA 600/R-93/116

II. Sample Management

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

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
T-III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 600/R-93/116—Asbestos

Reviewed By: P. Meeks
Date Reviewed: October 21, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 600/R-93/116*, and the *National Functional Guidelines for Inorganic Data Review* (07/02).

- Holding Times: There is no established holding time for asbestos analysis; however, the samples were analyzed within 30 days of collection.

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

- Blanks: Method blanks are not applicable to this analysis. The laboratory did not provide documentation indicating that all supplies used in the analysis of the sample were checked and found to be free from asbestos contamination.

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

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

- Sample Result Verification: Review is not applicable at a Level V validation. The laboratory did not provide any documents other than the sample results.

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

    - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was identified as the field blank associated with the samples in this SDG. The field blank was not analyzed for asbestos. The samples in this SDG had no associated equipment rinsate.

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

B. EPA METHOD 6020—Lead

Reviewed By: P. Meeks
Date Reviewed: October 21, 2009

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B, 6020, 7470A/7471A*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: The analytical holding time, six months for ICP-MS, was met.
- Tuning: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Review is not applicable at a Level V validation.
- Blank Spikes and Laboratory Control Samples: The recovery was within laboratory-established QC limits.
- Laboratory Duplicates: A laboratory duplicate analysis was performed on the sample in this SDG. The RPD was within the method-established control limit.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG. Recoveries and the RPD were within laboratory-established QC limits.
- Serial Dilution: A serial dilution analysis was performed on the sample in this SDG. The %D was within the method-established control limit
- Internal Standards Performance: Review is not applicable at a Level V validation.
- Sample Result Verification: Review is not applicable at a Level V validation. As the samples in this SDG were validated at Level V, the QC information necessary to make an absolute determination of bias in the samples was not reviewed; therefore, when qualifications were applied, no bias was assigned. The sample in this SDG was analyzed at the laboratory's standard 2× dilution for soils. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: FBQW2239 (235913) was identified as the field blank associated with the sample in this SDG. Lead was not detected in this sample. The sample in this SDG had no identified equipment rinsate.

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

C. EPA METHOD 8082—PCBs

Reviewed By: P. Meeks
Date Reviewed: October 21, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 8082*, and the *National Functional Guidelines for Organic Data Review* (10/99).

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

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

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

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

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

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on HZET0242S001. The recoveries and RPDs were within the laboratory-established control limit.

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

    - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was identified as the field blank associated with the sample in this SDG. There were no target compounds detected above the MDL in this sample. The sample in this SDG had no identified equipment rinsate.

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

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

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

Validated Sample Result Forms: 238543

Analysis Method 6020

Sample Name HZET0242S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 238543001 **Sample Date:** 10/6/2009 10:10:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Lead	7439921	4.76	0.426	0.106	mg/kg			

Analysis Method 8082

Sample Name HZET0242S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 238543001 **Sample Date:** 10/6/2009 10:10:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aroclor-1016	12674112	3.59	3.59		1.2 ug/kg	U	**U**	
Aroclor-1221	11104282	3.59	3.59		1.2 ug/kg	U	**U**	
Aroclor-1232	11141165	3.59	3.59		1.2 ug/kg	U	**U**	
Aroclor-1242	53469219	3.59	3.59		1.2 ug/kg	U	**U**	
Aroclor-1248	12672296	3.59	3.59		1.2 ug/kg	U	**U**	
Aroclor-1254	11097691	3.59	3.59		1.2 ug/kg	U	**U**	
Aroclor-1260	11096825	3.59	3.59		1.2 ug/kg	U	**U**	

Sample Name HZET1000S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 238543002 **Sample Date:** 10/6/2009 10:30:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aroclor-1016	12674112	3.43	3.43		1.14 ug/kg	U	**U**	
Aroclor-1221	11104282	3.43	3.43		1.14 ug/kg	U	**U**	
Aroclor-1232	11141165	3.43	3.43		1.14 ug/kg	U	**U**	
Aroclor-1242	53469219	3.43	3.43		1.14 ug/kg	U	**U**	
Aroclor-1248	12672296	3.43	3.43		1.14 ug/kg	U	**U**	
Aroclor-1254	11097691	108	3.43		1.14 ug/kg			
Aroclor-1260	11096825	39.4	3.43		1.14 ug/kg			

Sample Name HZET1001S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 238543003 **Sample Date:** 10/6/2009 10:35:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aroclor-1016	12674112	3.39	3.39		1.13 ug/kg	U	**U**	
Aroclor-1221	11104282	3.39	3.39		1.13 ug/kg	U	**U**	
Aroclor-1232	11141165	3.39	3.39		1.13 ug/kg	U	**U**	
Aroclor-1242	53469219	36.1	3.39		1.13 ug/kg			
Aroclor-1248	12672296	3.39	3.39		1.13 ug/kg	U	**U**	
Aroclor-1254	11097691	46	3.39		1.13 ug/kg			
Aroclor-1260	11096825	12.4	3.39		1.13 ug/kg			

Analysis Method 8082

Sample Name HZET1001S002 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 238543004 **Sample Date:** 10/6/2009 10:38:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aroclor-1016	12674112	3.41	3.41	1.14	ug/kg	U	**U**	
Aroclor-1221	11104282	3.41	3.41	1.14	ug/kg	U	**U**	
Aroclor-1232	11141165	3.41	3.41	1.14	ug/kg	U	**U**	
Aroclor-1242	53469219	3.41	3.41	1.14	ug/kg	U	**U**	
Aroclor-1248	12672296	3.41	3.41	1.14	ug/kg	U	**U**	
Aroclor-1254	11097691	22.4	3.41	1.14	ug/kg			
Aroclor-1260	11096825	8.5	3.41	1.14	ug/kg			

Analysis Method EPA 600/R-93/116

Sample Name HZET0237S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 2612716-1 **Sample Date:** 10/5/2009 1:55:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1			0.1 %	U	**U**	

Sample Name HZET0238S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 2612717-1 **Sample Date:** 10/5/2009 2:00:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1			0.1 %	U	**U**	

Sample Name HZET0239S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 2612718-1 **Sample Date:** 10/5/2009 2:18:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1			0.1 %	U	**U**	

Sample Name HZET0240S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 2612719-1 **Sample Date:** 10/5/2009 2:10:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1			0.1 %	U	**U**	

Sample Name HZET0241S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 2612720-1 **Sample Date:** 10/5/2009 2:05:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1			0.1 %	U	**U**	

Sample Name HZET0242S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 2612712-1 **Sample Date:** 10/6/2009 10:10:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1			0.1 %	U	**U**	

Sample Name HZET1000S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 2612713-1 **Sample Date:** 10/6/2009 10:30:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1			0.1 %	U	**U**	

Analysis Method EPA 600/R-93/116

Sample Name	HZET1001S001	**Matrix Type:**	SOIL	**Result Type:**	Primary Result
Lab Sample Name:	2612714-1	**Sample Date:**	10/6/2009 10:35:00 AM	**Validation Level:**	V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1			0.1 %	U	**U**	

Sample Name	HZET1001S002	**Matrix Type:**	SOIL	**Result Type:**	Primary Result
Lab Sample Name:	2612715-1	**Sample Date:**	10/6/2009 10:38:00 AM	**Validation Level:**	V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1			0.1 %	U	**U**	

Chain of Custody and Supporting Documentation

GEL

BOEING

CHAIN OF CUSTODY RECORD

COC #: MWHAG20091019_00

239273

Page: 1 of 1

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	A. Goldenberg	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Benjamin Stewart				
	CA	Field Contact #:	(818) 266-1378				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

Sample Name	Matrix	Date	Time	No. of Containers	Asbestos 600/4-83-043 - Soil	D2216 Moisture Soil	Dioxin by 1613B - Soil	Metals 6020 Soil Copper	Metals 6020 Soil Lead	PCB by SW8082 - Soil	Comments
HZET0726S001	Soil	10/19/2009	8:55	2		2	2	2			HVS-3
HZET0727S001	Soil	10/19/2009	9:05	2		2	2	2			HVS-3
HZET1002S001	Soil	10/19/2009	10:00	2	1	2				2	HVS-2A
HZET1100S001	Soil	10/19/2009	12:05	2		2	2		2		HVS-2A

Requested Analyses

Instructions/TAT

Legend:
Numerical values for analyses equate to turn around time in days

H - Hold
EH - Extract/Extrude & Hold

Note: Values in the cells bellow are Turn Around Times.

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/19/09	R.M. Stilley	10/21/09				
Company: MWH	Time: 1700	Company: GEL	Time: 850	Company:	Time:	Company:	Time:

Comments: Sample volume for dioxin analysis shipped directly to CFA, sample volume for asbestos analysis shipped to EMLab, and sample volume for all other analysis shipped to GEL

Geotracker EDF ☐

Data Validation Package ☑ Level IV

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SSFI	**SDG/ARCOC/Work Order:** 239273
Received By: RMS	**Date Received:** 10/21/09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*:
Classified Radioactive II or III by RSO?		✓	30cpm
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?	✓			Preservation Method: (ice bags) blue ice dry ice none other (describe) 4C
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		✓		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Ex. 7970 3302 7950

PM (or PMA) review: Initials JT Date 10/21/09

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name: ISRA Sampling, August 2009 **Start:** 8/24/2009 **End:** 9/30/2009

LTO DATE: **LTO NUMBER:**

Consultant Name:	MWH	**Contract Laboratory:**	GEL
Address:	2121 N. California Blvd. Ste. 600 Walnut Creek, CA 94596	Address:	2040 Savage Rd. Charleston, SC 29407
Contact Name:	Sarah Von Raesfeld	**Lab Contact Name:**	Jackie Trudell
Phone Number:	925-627-4654	Phone Number:	843-769-7388
Fax Number:	925-627-4501	Fax Number:	843-766-1178
E-mail Address:	Sarah.VonRaesfeld@mwhglobal.com	E-mail Address:	jacqueline.trudell@gel.com

SAMPLE CONTAINER ORDER FORM

Date Required:

Date Sample Pickup:

Ship Containers To:

Project Site _____ *(enter "X")*
Consultant Office _____ *(enter "X")*
Other Location (specify in comments) _____ *(enter "X")*

Container Information:

Trip Blank (VOA only) No *(Yes/No)*
Temp Blank (VOA Only) No *(Yes/No)*
DI Water Required? No *(Yes/No)*
MS/MSD Extra Bottles? No *(Yes/No)*

Sample Matrix:

Soil X *(select all applicable)*
Water X *(select all applicable)*
Vapor _____ *(select all applicable)*

Est. Total # of Samples: 175 Est. Total # of EDDs 40

Requested Analyses: **(Specify # of Samples)**

	Water	Soil	Contingent
Dioxins (1613B)	**15**	**124**	**0**
EPA 8015M (DRO)	--	--	--
EPA 8015M (JET FUEL)	--	--	--
EPA 8015M (CC)	--	--	--
TCE (8260B)	**5**	**12**	**0**
EPA 8270C SIM (SVOC)	--	--	--
EPA 8310 (PAH)	--	--	--
EPA 8082 (PCB)	**3**	**5**	**0**
Nickel (6020)	**5**	**10**	**0**
Chromium (6020)	**5**	**10**	**0**
Silver (6020)	**5**	**10**	**0**
Cadmium (6020)	**10**	**35**	**0**
Arsenic (6020)	**5**	**10**	**0**
% Moisture (D2216)	**0**	**170**	**0**
Lead (6020)	**10**	**65**	**0**
Copper (6020)	**10**	**75**	**0**
Zinc (6020)	**5**	**20**	**0**
Mercury by 7471A/7470A	**5**	**25**	**0**

LABORATORY REPORTING REQUIREMENTS

Project TAT:

Normal: X (10 Business days)
RUSH: 5 (Specify- 24 / 48 / 72HRS)
Other : _____ (Specify # of Days)
Report Due Date: _____

Special Reporting Requirements:

Contingent Analysis? No *(Yes/No)*
TIC (VOC) Required? No *(Yes/No)*
TIC (SVOC) Required? No *(Yes/No)*
Data Validation Pckge.: Tier III (Boeing Tier I, II or III)

Laboratory Results/Reports Deliverables:

Draft Results Fax?: _____ (Yes/No)
Draft Results E-mail?: Yes (Yes/No)

Specify Fax/E-mail Contact Name, #, E-mail Address: Sarah.VonRaesfeld@mwhglobal.com

Send Original Reports To:

Project Site _____ *(enter "X")*
Consultant Office _____ *(enter "X")*
Other Location (specify in comments) X *(enter "X")*
# of Copies Reports Req.: 1

SPECIAL INSTRUCTIONS/LTO NOTES

CONFIRMATION OF TRANSMITTAL & RECEIPT

LTO Sent By:

Name: Sarah Von Raesfeld
Date: 09/02/09

LTO Received By-

Name: _____
Date: _____

Table of Contents

Case Narrative

Case Narrative
for
Boeing - SSFL (MWH)
Work Order: 239273
SDG: 239273

November 04, 2009

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample Receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on October 21, 2009 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following samples:

Laboratory Identification	Sample Description
239273001	HZET0726S001
239273002	HZET0727S001
239273003	HZET1002S001
239273004	HZET1100S001

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: GC Semivolatile PCB, Metals, Percent Moisture, Asbestos (EMLab P&K) and Dioxins (Cape Fear Analytical).

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Jacqueline A Trudell

Jacqueline Trudell
Project Manager

Data Qualifiers Definitions

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

Laboratory Certifications

List of current GEL Certifications as of 23 October 2009

State	Certification
Arizona	AZ0668
Arkansas	88−0651
CLIA	42D0904046
California − NELAP	01151CA
Colorado	GEL
Connecticut	PH−0169
Dept. of Navy	NFESC 413
EPA Region 5	WG−15J
Florida − NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois − NELAP	200029
Indiana	C−SC−01
Kansas − NELAP	E−10332
Kentucky	90129
Louisiana − NELAP	03046
Maryland	270
Massachusetts	M−SC012
Nevada	SC00012
New Jersey − NELAP	SC002
New Mexico	FL NELAP E87156
New York − NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania − NELAP	68−00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas − NELAP	T104704235−07B−TX
U.S. Dept. of Agriculture	S−52597
Utah − NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 239273

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	239273
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	4
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	*Lab Sample Name*	*Sub-Lab Sample Name*	*Matrix*	*Collection*	*Method*
HZET0726S001	239273001	1102001	SOIL	10/19/2009 8:55:00 AM	1613B, 6020
HZET0727S001	239273002	1102002	SOIL	10/19/2009 9:05:00 AM	1613B, 6020
HZET1002S001	239273003	2628573-1	SOIL	10/19/2009 10:00:00 AM	EPA 600/R-93/116, 8082
HZET1100S001	239273004	1102003	SOIL	10/19/2009 12:05:00 PM	1613B, 6020

II. Sample Management

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

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
T-III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 600/R-93/116—Asbestos

Reviewed By: P. Meeks
Date Reviewed: November 9, 2009

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 600/R-93/116*, and the *National Functional Guidelines for Inorganic Data Review* (07/02).

- Holding Times: There is no established holding time for asbestos analysis; however, the sample was analyzed within 30 days of collection.

- Calibration: No polarized light microscope calibration information was provided by the laboratory, however, review is not applicable at a Level V validation.

- Blanks: Method blanks are not applicable to this analysis. The laboratory did not provide documentation indicating that supplies used in the analysis of the sample were checked and found to be free from asbestos contamination.

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

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

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

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

    - Field Blanks and Equipment Rinsates: The field blank and equipment rinsate associated with the samples in this SDG were not analyzed for asbestos.

    - Field Duplicates: There were no filed duplicate samples identified in this SDG.

B. EPA METHOD 1613—Dioxin/Furans

Reviewed By: P. Meeks
Date Reviewed: November 9, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (08/02).

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

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

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

- Blanks: The soil method blank reported detects below the PQL or estimated maximum possible concentrations (EMPCs) for all target compounds except TCDD. Detects less than the reporting limit or less than 5× the method blank detects were qualified as nondetected, "U," at the EDL. Detected results for all totals were qualified as estimated, "J," due to detects in the soil method blank.

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

- Matrix Spike/Matrix Spike Duplicate Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613. RPDs were within the laboratory-established control limits.

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

    - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank associated with the samples in this SDG; however, the sample was not analyzed for dioxins. The samples in this SDG had no identified equipment rinsate.

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

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

- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The laboratory performed confirmation analyses for 2,3,7,8-TCDF. When the original result was reported as an EMPC, the original result was rejected, "R," in favor the confirmation result. When the original result was not reported as an EMPC, or if both the original analysis and the confirmation analysis were both reported as EMPCs, the confirmation result was rejected, "R," in favor of the initial result.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. EMPCs were identified in the sample of this SDG, as denoted by the laboratory "K," code. For individual isomers identified as EMPCs, the results were qualified as estimated nondetects, "UJ." Totals reported as EMPCs were qualified as estimated, "J," as only a portion of the total was identified as an EMPC. The laboratory calculated and reported compound-specific detection limits. Any detect below the laboratory lower calibration level was qualified as estimated, "J." Nondetects are valid to the estimated detection limit (EDL).

C. EPA METHOD 6020—Metals

Reviewed By: P. Meeks
Date Reviewed: November 9, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 6020,* and the *National Functional Guidelines for Inorganic Data Review* (7/02).

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

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

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

- Blanks: Method blanks and CCBs had no detects.

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

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

- Laboratory Duplicates: A laboratory duplicate analysis was performed on HZET0726S001. The RPDs were within the method-established control limit.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on HZET0726S001. Both lead recoveries and the copper MSD recovery were below the

control limit. The copper MS recovery was below 30%. Detects for copper and lead were qualified as estimated, "J." Both RPDs were within method-established QC limits.

- Serial Dilution: A serial dilution analysis was performed on HZET0726S001. The %Ds were within the method-established control limit..

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

- Sample Result Verification: Review is not applicable at a Level V validation. As the samples in this SDG were validated at Level V, the QC information necessary to make an absolute determination of bias in the samples was not reviewed; therefore, when qualifications were applied, no bias was assigned. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the MDL.

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

    - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank associated with the samples in this SDG. There were no applicable detects in this sample. The samples in this SDG had no identified equipment rinsate.

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

D. EPA METHOD 8082—PCBs

Reviewed By: P. Meeks
Date Reviewed: November 9, 2009

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 8082*, and the *National Functional Guidelines for Organic Data Review* (10/99).

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

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

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

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

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

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG. Recoveries and RPDs were within the laboratory-established control limits.

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

    - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank associated with the sample in this SDG. There were no detects above the MDL in this sample. The sample in this SDG had no associated equipment rinsate.

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

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

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

Validated Sample Result Forms: 239273

Analysis Method 1613B

Sample Name HZET0726S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 1102001 **Sample Date:** 10/19/2009 8:55:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	2.12	2.12	2.12	pg/g	JK	UJ	*III, result changed from 0.184 and EDL from 0.164
1,2,3,4,6,7,8-HpCDF	67562394	2.12	2.12	2.12	pg/g	JK	UJ	*III,result changed from 0.144 and EDL from 0.0858
1,2,3,4,7,8,9-HpCDF	55673897	0.145	2.12	0.145	pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.0914	2.12	0.0914	pg/g	U	U	
1,2,3,4,7,8-HxCDF	70648269	0.0943	2.12	0.0943	pg/g	U	U	
1,2,3,6,7,8-HxCDD	57653857	0.104	2.12	0.104	pg/g	U	U	
1,2,3,6,7,8-HxCDF	57117449	0.0978	2.12	0.0978	pg/g	U	U	
1,2,3,7,8,9-HxCDD	19408743	2.12	2.12	2.12	pg/g	JK	UJ	*III, result changed from 0.124 and EDL from 0.102
1,2,3,7,8,9-HxCDF	72918219	0.146	2.12	0.146	pg/g	U	U	
1,2,3,7,8-PeCDD	40321764	0.0711	2.12	0.0711	pg/g	U	U	
1,2,3,7,8-PeCDF	57117416	0.0655	2.12	0.0655	pg/g	U	U	
2,3,4,6,7,8-HxCDF	60851345	0.102	2.12	0.102	pg/g	U	U	
2,3,4,7,8-PeCDF	57117314	2.12	2.12	2.12	pg/g	JK	UJ	*III,result changed from 0.0745and EDL from 0.0631
2,3,7,8-TCDD	1746016	0.0893	0.423	0.0893	pg/g	U	U	
2,3,7,8-TCDF	51207319	0.267	0.423	0.0885	pg/g	J	R	D
2,3,7,8-TCDF	51207319	0.186	0.423	0.124	pg/g	J	J	
OCDD	3268879	4.23	4.23	4.23	pg/g	J	U	B, result changed from 0.8 and EDL from 0.266
OCDF	39001020	0.227	4.23	0.227	pg/g	U	U	
TEQ WHO2005 ND=0 with EMPCs		0.0568			pg/g			
TEQ WHO2005 ND=0.5 with EMPCs		0.171			pg/g			
Total HpCDD	37871004	0.184	2.12	0.164	pg/g	J	J	*III, B
Total HpCDF	38998753	0.144	2.12	0.0858	pg/g	J	J	*III, B
Total HxCDD	34465468	0.124	2.12	0.0914	pg/g	J	J	*III, B
Total HxCDF	55684941	0.0943	2.12	0.0943	pg/g	U	U	
Total PeCDD	36088229	0.0711	2.12	0.0711	pg/g	U	U	
Total PeCDF	30402154	0.0745	2.12	0.0435	pg/g	J	J	*III, B
Total TCDD	41903575	0.0893	0.423	0.0893	pg/g	U	U	
Total TCDFs	30402143	0.335	0.423	0.124	pg/g	J	J	B

Analysis Method 1613B

Sample Name HZET0727S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 1102002 **Sample Date:** 10/19/2009 9:05:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	0.453	2.33	0.19	pg/g	J	J	
1,2,3,4,6,7,8-HpCDF	67562394	0.332	2.33	0.091	pg/g	J	J	
1,2,3,4,7,8,9-HpCDF	55673897	2.33	2.33	2.33	pg/g	J	U	B, result changed from 0.285 and EDL from 0.159
1,2,3,4,7,8-HxCDD	39227286	0.239	2.33	0.106	pg/g	J	J	
1,2,3,4,7,8-HxCDF	70648269	2.33	2.33	2.33	pg/g	J	U	B, result changed from 0.207 and EDL from 0.0724
1,2,3,6,7,8-HxCDD	57653857	2.33	2.33	2.33	pg/g	JK	UJ	*III, result changed from 0.293 and EDL from 0.116
1,2,3,6,7,8-HxCDF	57117449	2.33	2.33	2.33	pg/g	JK	UJ	*III,result changed from 0.233 and EDL from 0.0733
1,2,3,7,8,9-HxCDD	19408743	2.33	2.33	2.33	pg/g	J	U	B, result changed from 0.334 and EDL from 0.116
1,2,3,7,8,9-HxCDF	72918219	2.33	2.33	2.33	pg/g	JK	UJ	*III, result changed from 0.351 and EDL from 0.108
1,2,3,7,8-PeCDD	40321764	0.168	2.33	0.0742	pg/g	J	J	
1,2,3,7,8-PeCDF	57117416	2.33	2.33	2.33	pg/g	JK	UJ	*III,result changed from 0.209 and EDL from 0.0683
2,3,4,6,7,8-HxCDF	60851345	2.33	2.33	2.33	pg/g	J	U	B, result changed from 0.352 and EDL from 0.0746
2,3,4,7,8-PeCDF	57117314	2.33	2.33	2.33	pg/g	J	U	B, result changed from 0.239 and EDL from 0.0694
2,3,7,8-TCDD	1746016	0.0921	0.466	0.0921	pg/g	U	U	
2,3,7,8-TCDF	51207319	0.371	0.466	0.099	pg/g	J	J	
2,3,7,8-TCDF	51207319	0.457	0.466	0.0994	pg/g	JK	R	D
OCDD	3268879	4.66	4.66	4.66	pg/g	JK	UJ	*III,result changed from 1.42 and EDL from 0.345
OCDF	39001020	4.66	4.66	4.66	pg/g	J	U	B, result changed from 0.841 and EDL from 0.283
TEQ WHO2005 ND=0 with EMPCs		0.495			pg/g			
TEQ WHO2005 ND=0.5 with EMPCs		0.541			pg/g			
Total HpCDD	37871004	0.453	2.33	0.19	pg/g	J	J	B
Total HpCDF	38998753	0.617	2.33	0.091	pg/g	J	J	B
Total HxCDD	34465468	0.865	2.33	0.106	pg/g	J	J	*III, B
Total HxCDF	55684941	1.14	2.33	0.0724	pg/g	J	J	*III, B
Total PeCDD	36088229	0.168	2.33	0.0742	pg/g	J	J	B
Total PeCDF	30402154	0.448	2.33	0.0683	pg/g	J	J	*III, B
Total TCDD	41903575	0.0921	0.466	0.0921	pg/g	U	U	
Total TCDFs	30402143	0.931	0.466	0.099	pg/g		J	*III, B

Analysis Method 1613B

Sample Name HZET1100S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 1102003 **Sample Date:** 10/19/2009 12:05:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	0.151	2.11	0.136	pg/g	J	J	
1,2,3,4,6,7,8-HpCDF	67562394	2.11	2.11	2.11	pg/g	JK	UJ	*III,result changed from 0.108 and EDL from 0.0682
1,2,3,4,7,8,9-HpCDF	55673897	0.115	2.11	0.115	pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.0876	2.11	0.0876	pg/g	U	U	
1,2,3,4,7,8-HxCDF	70648269	0.0655	2.11	0.0655	pg/g	U	U	
1,2,3,6,7,8-HxCDD	57653857	2.11	2.11	2.11	pg/g	J	U	B, result changed from 0.644 and EDL from 0.0957
1,2,3,6,7,8-HxCDF	57117449	2.11	2.11	2.11	pg/g	J	U	B, result changed from 0.563 and EDL from 0.0671
1,2,3,7,8,9-HxCDD	19408743	2.11	2.11	2.11	pg/g	JK	UJ	*III,result changed from 0.893 and EDL from 0.0962
1,2,3,7,8,9-HxCDF	72918219	2.11	2.11	2.11	pg/g	JK	UJ	*III, result changed from 0.14 and EDL from 0.103
1,2,3,7,8-PeCDD	40321764	0.0719	2.11	0.0719	pg/g	U	U	
1,2,3,7,8-PeCDF	57117416	0.0761	2.11	0.0761	pg/g	U	U	
2,3,4,6,7,8-HxCDF	60851345	0.0727	2.11	0.0727	pg/g	U	U	
2,3,4,7,8-PeCDF	57117314	2.11	2.11	2.11	pg/g	J	U	B, result changed from 0.0964 and EDL from 0.0715
2,3,7,8-TCDD	1746016	0.07	0.423	0.07	pg/g	U	U	
2,3,7,8-TCDF	51207319	0.24	0.423	0.114	pg/g	J	J	
2,3,7,8-TCDF	51207319	0.294	0.423	0.0797	pg/g	J	R	D
OCDD	3268879	4.23	4.23	4.23	pg/g	J	U	B, result changed from 0.445 and EDL from 0.233
OCDF	39001020	0.201	4.23	0.201	pg/g	U	U	
TEQ WHO2005 ND=0 with EMPCs		0.28			pg/g			
TEQ WHO2005 ND=0.5 with EMPCs		0.364			pg/g			
Total HpCDD	37871004	0.151	2.11	0.136	pg/g	J	J	B
Total HpCDF	38998753	0.108	2.11	0.0682	pg/g	J	J	*III, B
Total HxCDD	34465468	1.54	2.11	0.0876	pg/g	J	J	*III, B
Total HxCDF	55684941	0.786	2.11	0.0655	pg/g	J	J	*III, B
Total PeCDD	36088229	0.0719	2.11	0.0719	pg/g	U	U	
Total PeCDF	30402154	0.179	2.11	0.0715	pg/g	J	J	B
Total TCDD	41903575	0.07	0.423	0.07	pg/g	U	U	
Total TCDFs	30402143	0.578	0.423	0.114	pg/g		J	B

Analysis Method 6020

Sample Name HZET0726S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 239273001 **Sample Date:** 10/19/2009 8:55:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Copper	7440508	9.76	1.02	0.337	mg/kg	N	J	Q

Sample Name HZET0727S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 239273002 **Sample Date:** 10/19/2009 9:05:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Copper	7440508	10.4	1.08	0.356	mg/kg	N	J	Q

Sample Name HZET1100S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 239273004 **Sample Date:** 10/19/2009 12:05:00 PM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Lead	7439921	4.63	0.406	0.102	mg/kg	N	J	Q

Analysis Method 8082

Sample Name HZET1002S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 239273003 **Sample Date:** 10/19/2009 10:00:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aroclor-1016	12674112	3.51	3.51	1.17	ug/kg	U	U	
Aroclor-1221	11104282	3.51	3.51	1.17	ug/kg	U	U	
Aroclor-1232	11141165	3.51	3.51	1.17	ug/kg	U	U	
Aroclor-1242	53469219	3.51	3.51	1.17	ug/kg	U	U	
Aroclor-1248	12672296	3.51	3.51	1.17	ug/kg	U	U	
Aroclor-1254	11097691	3.51	3.51	1.17	ug/kg	U	U	
Aroclor-1260	11096825	3.51	3.51	1.17	ug/kg	U	U	

Analysis Method EPA 600/R-93/116

Sample Name HZET1002S001 **Matrix Type:** SOIL **Result Type:** Primary Result

Lab Sample Name: 2628573-1 **Sample Date:** 10/19/2009 10:00:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Asbestos	1332214	0.1		0.1	%	U	U	

Chain of Custody and Supporting Documentation

BOEING 239316H ~~238234~~ JT 10/20/09 **CHAIN OF CUSTODY RECORD** COC #: MWHBM20091001_00

Page: 1 of 2

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	B. Martasin	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Brian Martasin				
	CA	Field Contact #:	(323) 304-4969				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

						Requested Analyses														Instructions/TAT
	Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water				Legend: Numerical values for analyses equate to turn around time in days H - Hold EH - Extract/Extrude & Hold Note: Values in the cells bellow are Turn Around Times.
1	EBQW2249	Water	10/1/2009	15:30	9			10	10			10			10		10				Comments
2	HVBF33AS01	Soil	10/1/2009	10:18	2	5	5				5			5		5					
2	HVBF33AS02	Soil	10/1/2009	10:40	2	5	5				5			5		5					
3	HZBS0080AS001	Soil	10/1/2009	14:35	3	5				2	5		5	5		5					
	HZBS0080AS002	Soil	10/1/2009	14:45	3	5				2	5		5	5		5					
	HZBS0082AS001	Soil	10/1/2009	8:30	3	5				2	5		5	5		5					
	HZBS0082AS002	Soil	10/1/2009	9:05	3	5				2	5		5	5		5					
	HZBS0084AS001	Soil	10/1/2009	7:50	3	5				2	5		5	5		5					
	HZBS0084AS002	Soil	10/1/2009	8:15	3	5				2	5		5	5		5					
✓	HZBS0123AS001	Soil	10/1/2009	13:15	3	5				2	5		5	5		5					

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/1/09	R.M. Stelling	10/2/09				
Company: MWH	Time: 1445	Company: GEL	Time: 915	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

4

CHAIN OF CUSTODY RECORD

239316H

COC #: MWHBM20091001_00

Page: 2 of 2

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	B. Martasin	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462	Requested Analyses			Instructions/TAT
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				Legend: Numerical values for analyses equate to turn around time in days
	Suite 600	PM Phone #:	(925) 627-4627				H - Hold EH - Extract/Extrude & Hold
	Walnut Creek	Field Contact:	Brian Martasin				
	CA	Field Contact #:	(323) 304-4969				
	94596	Lab Name:	GEL Laboratories, LLC				Note: Values in the cells bellow are Turn Around Times.
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

	Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water				Comments
3	HZBS0123AS002	Soil	10/1/2009	13:30	3	5				2	5		5	5		5					
3	HZBS0124AS001	Soil	10/1/2009	11:00	3	5				2	5		5	5		5					
3	HZBS0124AS002	Soil	10/1/2009	12:30	3	5				2	5		5	5		5					
2	HZBS0175S001	Soil	10/1/2009	13:50	3	5	5			2	5		5	5		5					
	HZBS0175S002	Soil	10/1/2009	14:10	3	5	5			2	5		5	5		5					
	HZBS0177S001	Soil	10/1/2009	15:00	3	5	5			2	5		5	5		5					
	HZBS0177S002	Soil	10/1/2009	15:15	3	5	5			2	5		5	5		5					
	HZBS0180S001	Soil	10/1/2009	9:30	3	5	5			2	5		5	5		5					
	HZBS0180S002	Soil	10/1/2009	10:00	3	5	5			2	5		5	5		5					

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/1/09	R.M. Stelling	10/2/09				
Company: MWH	Time: 1445	Company: GEL	Time: 915	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

2393161

Client: SSFL	SDG/ARCOC/Work Order: ~~238234~~ OT 10120109
Received By: AMS	Date Received: 10/2/09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*:
Classified Radioactive II or III by RSO?		✓	30 cpm
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items).
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?	✓			Preservation Method: (ice bags) blue ice dry ice none other (describe) 2.7, 3°
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?			✓	Circle Applicable: seals broken (damaged container) leaking container other (describe) received (2) broken Amber 1L ID: EBRW2249
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	✓			Sample ID's and containers affected:
7	Are Encore containers present?	✓			(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:
Fx. 9457 5163 0800
" " 0795
" 3159 3987

PM (or PMA) review: Initials AMS Date 10/2/09

Date: 10/20/09

Requesting Firm: MWH
Address: 9444 Farnham Suite 300
San Diego, CA 92123
Phone: 858-751-1217
Fax: 858-751-1201
E-mail: Sean.leffler@mwhglobal.com

To: Jackie Trudell **Phone: 843-769-7388**

Laboratory GEL Laboratories, LLC **E-mail:** **jacqueline.trudell@gel.com**

From: Sean Leffler

Requestor signature:

Subject: **Chain-of-Custody Form Analytical Request Change** **No. of Pages: 3**

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

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHBM20091001_00	HVBF33AS01, HVBF33AS02	10/1/09		Add aluminum and boron by 6010 on 48 hour TAT

The reason for these changes:

Incorrectly marked on COC form _____

Lack of sample volume _____

Change in analytical request X

Other: _____

Thank you

BOEING 238234

CHAIN OF CUSTODY RECORD

COC #: MWHBM20091001_00

Page: 1 of 2

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	B. Martasin	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462				
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Brian Martasin				
	CA	Field Contact #:	(323) 304-4969				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

Requested Analyses

Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals by 6010B/6020/7470A - Water	Metals by 6010B/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water	Metals 6010B Soil Aluminum	Metals 6010B Soil Boron		Instructions/TAT / Comments
1 EBQW2249	Water	10/1/2009	15:30	9			10	10			10			10		10				Legend: Numerical values for analyses equate to turn around time in days H - Hold EH - Extract/Extrude & Hold Note: Values in the cells bellow are Turn Around Times.
2 HVBF33AS01	Soil	10/1/2009	10:16	2	5	5				5			5		5		2	2		
2 HVBF33AS02	Soil	10/1/2009	10:40	2	5	5				5			5		5		2	2		
3 HZBS0080AS001	Soil	10/1/2009	14:35	3	5				2	5		5	5		5		30			
HZBS0080AS002	Soil	10/1/2009	14:45	3	5	5	0		2	5		5	5		5					
HZBS0082AS001	Soil	10/1/2009	8:30	3	5				2	5		5	5		5					
HZBS0082AS002	Soil	10/1/2009	9:05	3	5				2	5		5	5		5					
HZBS0084AS001	Soil	10/1/2009	7:50	3	5				2	5		5	5		5					
HZBS0084AS002	Soil	10/1/2009	8:15	3	5	5	0		2	5		5	5		5					
✓ HZBS0123AS001	Soil	10/1/2009	13:15	3	5				2	5		5	5		5					

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/1/09	R.M. Stelling	10/2/09				
Company: MWH	Time: 1445	Company: GEL	Time: 915	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

(1) SSL 10/8/09 (2) SSL 10/20/09

CHAIN OF CUSTODY RECORD

COC #: MWHBM20091001_00

Page: 2 of 2

Customer Information		Project Information		Project Information			
Site:	SSFL	Client Name:	Boeing	Collector:	B. Martasin	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, August 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.05462	Requested Analyses			Instructions/TAT
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				Legend: Numerical values for analyses equate to turn around time in days
	Suite 600	PM Phone #:	(925) 627-4627				H - Hold
	Walnut Creek	Field Contact:	Brian Martasin				EH - Extract/Extrude & Hold
	CA	Field Contact #:	(323) 304-4989				
	94596	Lab Name:	GEL Laboratories, LLC				Note: Values in the cells bellow are Turn Around Times.
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
			Charleston, SC 29407				
		Lab Phone:	(843) 769-7388				

Sample Name	Matrix	Date	Time	No. of Containers	D2216 Moisture Soil	Dioxin by 1613B - Soil	Dioxin by 1613B - Water	Metals by 6010/6020/7470A - Water	Metals by 6010/6020/7471A - Soil	PCB by SW8082 - Soil	PCB by SW8082 - Water	Perchlorate 314 Soil DI-WET	SVOCs by SW8270C SIM - Soil	SVOCs by SW8270C SIM - Water	TPH by SW8015BM - Soil	TPH by SW8015BM - Water				Comments
HZBS0123AS002	Soil	10/1/2009	13:30	3	5	5	D		2	5		5	5		5					
HZBS0124AS001	Soil	10/1/2009	11:00	3	5				2	5		5	5		5					
HZBS0124AS002	Soil	10/1/2009	12:30	3	5	5	D		2	5		5	5		5					
HZBS0175S001	Soil	10/1/2009	13:50	3	5	5			2	5		5	5		5					
HZBS0175S002	Soil	10/1/2009	14:10	3	5	5			2	5		5	5		5					
HZBS0177S001	Soil	10/1/2009	15:00	3	5	5			2	5		5	5		5					
HZBS0177S002	Soil	10/1/2009	15:15	3	5	5			2	5		5	5		5					
HZBS0180S001	Soil	10/1/2009	9:30	3	5	5			2	5		5	5		5					
HZBS0180S002	Soil	10/1/2009	10:00	3	5	5			2	5		5	5		5					

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
	10/1/09	R.M. Stelling	10/2/09				
Company: MWH	Time: 1445	Company: GEL	Time: 915	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF ☐

Data Validation Package ☑ Level IV

OSSL 10/8/09

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name: ISRA Sampling, August 2009 **Start:** 8/24/2009 **End:** 9/30/2009

LTO DATE: **LTO NUMBER:**

Consultant Name:	MWH	**Contract Laboratory:**	GEL
Address:	2121 N. California Blvd. Ste. 600 Walnut Creek, CA 94596	Address:	2040 Savage Rd. Charleston, SC 29407
Contact Name:	Sarah Von Raesfeld	**Lab Contact Name:**	Jackie Trudell
Phone Number:	925-627-4654	Phone Number:	843-769-7388
Fax Number:	925-627-4501	Fax Number:	843-766-1178
E-mail Address:	Sarah.VonRaesfeld@mwhglobal.com	E-mail Address:	jacqueline.trudell@gel.com

SAMPLE CONTAINER ORDER FORM

Date Required:

Date Sample Pickup:

Ship Containers To:

Project Site _____ *(enter "X")*
Consultant Office _____ *(enter "X")*
Other Location (specify in comments) _____ *(enter "X")*

Container Information:

Trip Blank (VOA only) No *(Yes/No)*
Temp Blank (VOA Only) No *(Yes/No)*
DI Water Required? No *(Yes/No)*
MS/MSD Extra Bottles? No *(Yes/No)*

Sample Matrix:

Soil X *(select all applicable)*
Water X *(select all applicable)*
Vapor _____ *(select all applicable)*

Est. Total # of Samples: 175 Est. Total # of EDDs 40

Requested Analyses: **(Specify # of Samples)**

	Water	Soil	Contingent
Dioxins (1613B)	**15**	**124**	**0**
EPA 8015M (DRO)	--	--	--
EPA 8015M (JET FUEL)	--	--	--
EPA 8015M (CC)	--	--	--
TCE (8260B)	**5**	**12**	**0**
EPA 8270C SIM (SVOC)	--	--	--
EPA 8310 (PAH)	--	--	--
EPA 8082 (PCB)	**3**	**5**	**0**
Nickel (6020)	**5**	**10**	**0**
Chromium (6020)	**5**	**10**	**0**
Silver (6020)	**5**	**10**	**0**
Cadmium (6020)	**10**	**35**	**0**
Arsenic (6020)	**5**	**10**	**0**
% Moisture (D2216)	**0**	**170**	**0**
Lead (6020)	**10**	**65**	**0**
Copper (6020)	**10**	**75**	**0**
Zinc (6020)	**5**	**20**	**0**
Mercury by 7471A/7470A	**5**	**25**	**0**

LABORATORY REPORTING REQUIREMENTS

Project TAT:

Normal: X (10 Business days)
RUSH: 5 (Specify- 24 / 48 / 72HRS)
Other : _____ (Specify # of Days)
Report Due Date:

Special Reporting Requirements:

Contingent Analysis? No *(Yes/No)*
TIC (VOC) Required? No *(Yes/No)*
TIC (SVOC) Required? No *(Yes/No)*
Data Validation Pckge.: Tier III (Boeing Tier I, II or III)

Laboratory Results/Reports Deliverables:

Draft Results Fax?: _____ (Yes/No)
Draft Results E-mail?: Yes (Yes/No)

Specify Fax/E-mail Contact Name, #, E-mail Address: Sarah.VonRaesfeld@mwhglobal.com

Send Original Reports To:

Project Site _____ *(enter "X")*
Consultant Office _____ *(enter "X")*
Other Location (specify in comments) X *(enter "X")*
# of Copies Reports Req.: 1

SPECIAL INSTRUCTIONS/LTO NOTES

CONFIRMATION OF TRANSMITTAL & RECEIPT

LTO Sent By:

Name: Sarah Von Raesfeld
Date: 09/02/09

LTO Received By-

Name:
Date:

Table of Contents

Case Narrative

Case Narrative
for
Boeing - SSFL (MWH)
Work Order: 239316
SDG: 239316H

October 26, 2009

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample Receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on October 02, 2009 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following samples:

Laboratory Identification	Sample Description
239316001	HVBF33AS01
239316002	HVBF33AS02

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Metals and Percent Moisture.

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Jacqueline A Trudell

Jacqueline Trudell
Project Manager

Data Qualifiers Definitions

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

Laboratory Certifications

List of current GEL Certifications as of 22 October 2009

State	Certification
Arizona	AZ0668
Arkansas	88−0651
CLIA	42D0904046
California − NELAP	01151CA
Colorado	GEL
Connecticut	PH−0169
Dept. of Navy	NFESC 413
EPA Region 5	WG−15J
Florida − NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois − NELAP	200029
Indiana	C−SC−01
Kansas − NELAP	E−10332
Kentucky	90129
Louisiana − NELAP	03046
Maryland	270
Massachusetts	M−SC012
Nevada	SC00012
New Jersey − NELAP	SC002
New Mexico	FL NELAP E87156
New York − NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania − NELAP	68−00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas − NELAP	T104704235−07B−TX
U.S. Dept. of Agriculture	S−52597
Utah − NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 239316H

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	239316H
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	*Lab Sample Name*	*Sub-Lab Sample Name*	*Matrix*	*Collection*	*Method*
HVBF33AS01	239316001	N/A	SOIL	10/1/2009 10:18:00 AM	6010B
HVBF33AS02	239316002	N/A	SOIL	10/1/2009 10:40:00 AM	6010B

II. Sample Management

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

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
T-III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 6010B—Metals

Reviewed By: P. Meeks
Date Reviewed: November 5, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 6010B,* and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: The analytical holding time, six months for ICP metals, was met.
- Tuning: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Review is not applicable at a Level V validation.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: A laboratory duplicate analysis was performed on HVBF33AS01. The aluminum RPD exceeded the control limit; therefore, aluminum detected in the samples was qualified as estimated, "J." The boron RPD was within the method-established control limit.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on HVBF33AS01. Recoveries and RPDs were within laboratory-established QC limits.
- Serial Dilution: A serial dilution analysis was performed on HVBF33AS01. The %Ds were within the method-established control limit.
- Internal Standards Performance: Review is not applicable at a Level V validation.
- Sample Result Verification: Review is not applicable at a Level V validation. As the samples in this SDG were validated at Level V, the QC information necessary to make an absolute determination of bias in the samples was not reviewed; therefore, when qualifications were applied, no bias was assigned. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC

data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: FBQW2239 (236913) was the field blank and EBQW2249 (239234) was the equipment rinsate associated with the samples in this SDG. There were no applicable detects in these samples.

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

Validated Sample Result Forms: 239316H

Analysis Method 6010B

Sample Name HVBF33AS01 **Matrix Type:** Soil **Result Type:** Primary Result

Lab Sample Name: 239316001 **Sample Date:** 10/1/2009 10:18:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429905	13600	20.4	6.94	mg/kg	*	J	E
Boron	7440428	2.01	5.1	1.02	mg/kg	J	J	

Sample Name HVBF33AS02 **Matrix Type:** Soil **Result Type:** Primary Result

Lab Sample Name: 239316002 **Sample Date:** 10/1/2009 10:40:00 AM **Validation Level:** V

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429905	12000	20.2	6.86	mg/kg	*	J	E
Boron	7440428	1.01	5.05	1.01	mg/kg	U	U	