



March 04, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 238383  
SDG: 238383

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 06, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHAG20091005\_00  
Enclosures

GC  
SEMIVOLATILE  
PCB  
ANALYSIS

**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 238383  
Lab Sample ID: 238383001

Client: SSFL001  
Date Collected: 10/05/2009 13:55  
Date Received: 10/06/2009 09:30

Project: SSFL00160  
Matrix: Soil  
%Moisture: 3.3  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD2A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET0237S001  
Batch ID: 909545  
Run Date: 10/07/2009 16:37  
Data File: Dual Column  
Prep Batch: 909544  
Prep Date: 10/06/2009 22:42

Method: SW846 8082  
Analyst: JAOC  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.45	ug/kg	1.15	3.45	15.0	045f4501.d
11104-28-2	Aroclor-1221	U	3.45	ug/kg	1.15	3.45	15.0	045f4501.d
11141-16-5	Aroclor-1232	U	3.45	ug/kg	1.15	3.45	15.0	045f4501.d
53469-21-9	Aroclor-1242	U	3.45	ug/kg	1.15	3.45	15.0	045f4501.d
12672-29-6	Aroclor-1248	U	3.45	ug/kg	1.15	3.45	15.0	045f4501.d
11097-69-1	Aroclor-1254	U	3.45	ug/kg	1.15	3.45	15.0	045f4501.d
11096-82-5	Aroclor-1260	U	3.45	ug/kg	1.15	3.45	15.0	045f4501.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
4cmx	4.63	6.90	ug/kg	67.1	(34%-105%)	045b4501.d
Decachlorobiphenyl	4.87	6.90	ug/kg	70.7	(33%-115%)	045b4501.d

**Comments:**

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

**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 238383  
Lab Sample ID: 238383002

Client: SSFL001  
Date Collected: 10/05/2009 14:00  
Date Received: 10/06/2009 09:30

Project: SSFL00160  
Matrix: Soil  
%Moisture: 4.6  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD2A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET0238S001  
Batch ID: 909545  
Run Date: 10/07/2009 17:11  
Data File: Dual Column  
Prep Batch: 909544  
Prep Date: 10/06/2009 22:42

Method: SW846 8082  
Analyst: JAOC  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.49	ug/kg	1.16	3.49	15.0	048f4801.d
11104-28-2	Aroclor-1221	U	3.49	ug/kg	1.16	3.49	15.0	048f4801.d
11141-16-5	Aroclor-1232	U	3.49	ug/kg	1.16	3.49	15.0	048f4801.d
53469-21-9	Aroclor-1242	U	3.49	ug/kg	1.16	3.49	15.0	048f4801.d
12672-29-6	Aroclor-1248	U	3.49	ug/kg	1.16	3.49	15.0	048f4801.d
11097-69-1	Aroclor-1254	U	3.49	ug/kg	1.16	3.49	15.0	048f4801.d
11096-82-5	Aroclor-1260	U	3.49	ug/kg	1.16	3.49	15.0	048f4801.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
4cmx	5.42	6.99	ug/kg	77.6	(34%-105%)	048b4801.d
Decachlorobiphenyl	5.39	6.99	ug/kg	77.1	(33%-115%)	048b4801.d

**Comments:**

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

**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 238383  
Lab Sample ID: 238383003

Client: SSFL001  
Date Collected: 10/05/2009 14:18  
Date Received: 10/06/2009 09:30

Project: SSFL00160  
Matrix: Soil  
%Moisture: 5.7  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD2A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET0239S001  
Batch ID: 909545  
Run Date: 10/07/2009 17:22  
Data File: Dual Column  
Prep Batch: 909544  
Prep Date: 10/06/2009 22:42

Method: SW846 8082  
Analyst: JAOC  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30.04 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.53	ug/kg	1.18	3.53	15.0	049f4901.d
11104-28-2	Aroclor-1221	U	3.53	ug/kg	1.18	3.53	15.0	049f4901.d
11141-16-5	Aroclor-1232	U	3.53	ug/kg	1.18	3.53	15.0	049f4901.d
53469-21-9	Aroclor-1242	U	3.53	ug/kg	1.18	3.53	15.0	049f4901.d
12672-29-6	Aroclor-1248	U	3.53	ug/kg	1.18	3.53	15.0	049f4901.d
11097-69-1	Aroclor-1254	P	6.70	ug/kg	1.18	3.53	15.0	049f4901.d
11096-82-5	Aroclor-1260		6.30	ug/kg	1.18	3.53	15.0	049f4901.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
4cmx	4.11	7.06	ug/kg	58.3	(34%-105%)	049b4901.d
Decachlorobiphenyl	4.36	7.06	ug/kg	61.7	(33%-115%)	049b4901.d

**Comments:**

**J** Value is estimated

**P** Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%

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

**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 238383  
Lab Sample ID: 238383004

Client: SSFL001  
Date Collected: 10/05/2009 14:10  
Date Received: 10/06/2009 09:30

Project: SSFL00160  
Matrix: Soil  
%Moisture: 6.9  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD2A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET0240S001  
Batch ID: 909545  
Run Date: 10/07/2009 17:33  
Data File: Dual Column  
Prep Batch: 909544  
Prep Date: 10/06/2009 22:42

Method: SW846 8082  
Analyst: JAOC  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30.02 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.58	ug/kg	1.19	3.58	15.0	050f5001.d
11104-28-2	Aroclor-1221	U	3.58	ug/kg	1.19	3.58	15.0	050f5001.d
11141-16-5	Aroclor-1232	U	3.58	ug/kg	1.19	3.58	15.0	050f5001.d
53469-21-9	Aroclor-1242	U	3.58	ug/kg	1.19	3.58	15.0	050f5001.d
12672-29-6	Aroclor-1248	U	3.58	ug/kg	1.19	3.58	15.0	050f5001.d
11097-69-1	Aroclor-1254	U	3.58	ug/kg	1.19	3.58	15.0	050f5001.d
11096-82-5	Aroclor-1260	U	3.58	ug/kg	1.19	3.58	15.0	050f5001.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
4cmx	4.57	7.15	ug/kg	63.8	(34%-105%)	050b5001.d
Decachlorobiphenyl	4.79	7.15	ug/kg	66.9	(33%-115%)	050b5001.d

**Comments:**

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

**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 238383  
Lab Sample ID: 238383005

Client: SSFL001  
Date Collected: 10/05/2009 14:05  
Date Received: 10/06/2009 09:30

Project: SSFL00160  
Matrix: Soil  
%Moisture: 6.7  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD2A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET0241S001  
Batch ID: 909545  
Run Date: 10/07/2009 17:44  
Data File: Dual Column  
Prep Batch: 909544  
Prep Date: 10/06/2009 22:42

Method: SW846 8082  
Analyst: JAOC  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.57	ug/kg	1.19	3.57	15.0	051f5101.d
11104-28-2	Aroclor-1221	U	3.57	ug/kg	1.19	3.57	15.0	051f5101.d
11141-16-5	Aroclor-1232	U	3.57	ug/kg	1.19	3.57	15.0	051f5101.d
53469-21-9	Aroclor-1242	U	3.57	ug/kg	1.19	3.57	15.0	051f5101.d
12672-29-6	Aroclor-1248	U	3.57	ug/kg	1.19	3.57	15.0	051f5101.d
11097-69-1	Aroclor-1254	U	3.57	ug/kg	1.19	3.57	15.0	051f5101.d
11096-82-5	Aroclor-1260	U	3.57	ug/kg	1.19	3.57	15.0	051f5101.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
4cmx	5.60	7.15	ug/kg	78.3	(34%-105%)	051b5101.d
Decachlorobiphenyl	5.84	7.15	ug/kg	81.7	(33%-115%)	051b5101.d

**Comments:**

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

# **Metals Analysis**



**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 238383

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 238383001

**BASIS:** Dry Weight

**DATE COLLECTED** 05-OCT-09

**CLIENT ID:** HZET0237S001

**LEVEL:** Low

**DATE RECEIVED** 06-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 96.7

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	7.56	mg/kg		0.0998	0.399	0.4	2	MS	BAJ	10/07/09 03:11	091006-1	909505

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
909505	909504	SW846 3050B	0.518	g	50	mL	10/06/09	BCD1

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 238383

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 238383002

**BASIS:** Dry Weight

**DATE COLLECTED** 05-OCT-09

**CLIENT ID:** HZET0238S001

**LEVEL:** Low

**DATE RECEIVED** 06-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 95.4

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	4.19	mg/kg		0.1	0.401	0.4	2	MS	BAJ	10/07/09 03:54	091006-1	909505

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
909505	909504	SW846 3050B	0.523	g	50	mL	10/06/09	BCD1

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 238383

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 238383003

**BASIS:** Dry Weight

**DATE COLLECTED** 05-OCT-09

**CLIENT ID:** HZET0239S001

**LEVEL:** Low

**DATE RECEIVED** 06-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 94.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	10.2	mg/kg		0.105	0.418	0.4	2	MS	BAJ	10/07/09 04:00	091006-1	909505

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
909505	909504	SW846 3050B	0.507	g	50	mL	10/06/09	BCD1

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 238383

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 238383004

**BASIS:** Dry Weight

**DATE COLLECTED** 05-OCT-09

**CLIENT ID:** HZET0240S001

**LEVEL:** Low

**DATE RECEIVED** 06-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 93.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	8.08	mg/kg		0.103	0.411	0.4	2	MS	BAJ	10/07/09 04:07	091006-1	909505

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
909505	909504	SW846 3050B	0.522	g	50	mL	10/06/09	BCD1

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 238383

CONTRACT: SSFL00160

METHOD TYPE: SW846

SAMPLE ID: 238383005

BASIS: Dry Weight

DATE COLLECTED 05-OCT-09

CLIENT ID: HZET0241S001

LEVEL: Low

DATE RECEIVED 06-OCT-09

MATRIX: SOIL

%SOLIDS: 93.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	6.07	mg/kg		0.102	0.41	0.4	2	MS	BAJ	10/07/09 04:13	091006-1	909505

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
909505	909504	SW846 3050B	0.523	g	50	mL	10/06/09	BCD1



March 05, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 238462  
SDG: 238462H

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 01, 2009 and October 02, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHAG20090930\_00 and MWHBM20091001\_00  
Enclosures

# **Subcontract Data**

## **Dioxins**

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091001	<b>Date Collected:</b> 10/01/2009 14:45	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 4.9
<b>Client ID:</b> HZBS0080AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/09/2009 20:40	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-5		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.7 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.145	pg/g	0.145	0.899
40321-76-4	1,2,3,7,8-PeCDD	U	.119	pg/g	0.119	4.50
39227-28-6	1,2,3,4,7,8-HxCDD	U	.156	pg/g	0.156	4.50
57653-85-7	1,2,3,6,7,8-HxCDD	U	.176	pg/g	0.176	4.50
19408-74-3	1,2,3,7,8,9-HxCDD	U	.174	pg/g	0.174	4.50
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.306	pg/g	0.306	4.50
3268-87-9	1,2,3,4,5,6,7,8-OCDD	J	1.11	pg/g	0.734	8.99
51207-31-9	2,3,7,8-TCDF	JK	0.266	pg/g	0.166	0.899
57117-41-6	1,2,3,7,8-PeCDF	U	.093	pg/g	0.093	4.50
57117-31-4	2,3,4,7,8-PeCDF	JK	0.120	pg/g	0.0955	4.50
70648-26-9	1,2,3,4,7,8-HxCDF	U	.117	pg/g	0.117	4.50
57117-44-9	1,2,3,6,7,8-HxCDF	U	.123	pg/g	0.123	4.50
60851-34-5	2,3,4,6,7,8-HxCDF	U	.127	pg/g	0.127	4.50
72918-21-9	1,2,3,7,8,9-HxCDF	U	.185	pg/g	0.185	4.50
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.151	pg/g	0.151	4.50
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.298	pg/g	0.298	4.50
39001-02-0	1,2,3,4,5,6,7,8-OCDF	U	.752	pg/g	0.752	8.99
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	U	.145	pg/g	0.145	
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.119	pg/g	0.119	
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	U	.156	pg/g	0.156	
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	U	.306	pg/g	0.306	
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.503	pg/g	0.166	
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		0.120	pg/g	0.0861	
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	U	.117	pg/g	0.117	
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	U	.151	pg/g	0.151	
	TEQ WHO2005 ND=0 with EMPCs		0.0631	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.150	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		171	180	pg/g	95	(25%-164%)
13C-1,2,3,7,8-PeCDD		160	180	pg/g	89	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		174	180	pg/g	97	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		179	180	pg/g	100	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		155	180	pg/g	86	(23%-140%)
13C-OCDD		229	360	pg/g	64	(17%-157%)
13C-2,3,7,8-TCDF		177	180	pg/g	99	(25%-164%)
13C-1,2,3,7,8-PeCDF		171	180	pg/g	95	(24%-185%)
13C-2,3,4,7,8-PeCDF		169	180	pg/g	94	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		182	180	pg/g	101	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		174	180	pg/g	97	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		180	180	pg/g	100	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		168	180	pg/g	93	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		169	180	pg/g	94	(28%-143%)



**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 2 of 2

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091001	<b>Date Collected:</b> 10/01/2009 14:45	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 4.9
<b>Client ID:</b> HZBS0080AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/09/2009 20:40	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-5		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.7 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			150	180	pg/g	84 (26%-138%)
37Cl-2,3,7,8-TCDD			15.6	18.0	pg/g	87 (35%-197%)

**Comments:**

- J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091001	<b>Date Collected:</b> 10/01/2009 14:45	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 4.9
<b>Client ID:</b> HZBS0080AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/12/2009 14:48	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12oct09a-4		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.7 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.273	pg/g	0.0529	0.899

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091002	<b>Date Collected:</b> 10/01/2009 08:15	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 5.3
<b>Client ID:</b> HZBS0084AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/09/2009 23:04	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.44 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.177	pg/g	0.177	0.923
40321-76-4	1,2,3,7,8-PeCDD	J	0.380	pg/g	0.221	4.61
39227-28-6	1,2,3,4,7,8-HxCDD	JK	0.325	pg/g	0.201	4.61
57653-85-7	1,2,3,6,7,8-HxCDD	J	1.56	pg/g	0.231	4.61
19408-74-3	1,2,3,7,8,9-HxCDD	J	2.05	pg/g	0.225	4.61
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK	0.569	pg/g	0.371	4.61
3268-87-9	1,2,3,4,5,6,7,8-OCDD	J	1.59	pg/g	0.886	9.23
51207-31-9	2,3,7,8-TCDF	J	0.377	pg/g	0.203	0.923
57117-41-6	1,2,3,7,8-PeCDF	JK	0.306	pg/g	0.108	4.61
57117-31-4	2,3,4,7,8-PeCDF	JK	0.353	pg/g	0.119	4.61
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.321	pg/g	0.132	4.61
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.661	pg/g	0.141	4.61
60851-34-5	2,3,4,6,7,8-HxCDF	JK	0.360	pg/g	0.142	4.61
72918-21-9	1,2,3,7,8,9-HxCDF	JK	0.417	pg/g	0.221	4.61
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.369	pg/g	0.180	4.61
55673-89-7	1,2,3,4,7,8,9-HpCDF	JK	0.358	pg/g	0.353	4.61
39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	1.02	pg/g	1.02	9.23
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	U	.177	pg/g	0.177	
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs		0.380	pg/g	0.221	
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs		3.93	pg/g	0.201	
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs		0.569	pg/g	0.371	
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.674	pg/g	0.203	
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		0.659	pg/g	0.0941	
55684-94-1	Total Hexachlorodibenzofuran with EMPCs		1.76	pg/g	0.132	
38998-75-3	Total Heptachlorodibenzofuran with EMPCs		0.727	pg/g	0.180	
	TEQ WHO2005 ND=0 with EMPCs		1.12	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		1.20	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		163	185	pg/g	88	(25%-164%)
13C-1,2,3,7,8-PeCDD		154	185	pg/g	84	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		169	185	pg/g	92	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		172	185	pg/g	93	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		150	185	pg/g	82	(23%-140%)
13C-OCDD		219	369	pg/g	59	(17%-157%)
13C-2,3,7,8-TCDF		174	185	pg/g	94	(25%-164%)
13C-1,2,3,7,8-PeCDF		166	185	pg/g	90	(24%-185%)
13C-2,3,4,7,8-PeCDF		164	185	pg/g	89	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		178	185	pg/g	96	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		169	185	pg/g	92	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		178	185	pg/g	96	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		164	185	pg/g	89	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		162	185	pg/g	88	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091002	<b>Date Collected:</b> 10/01/2009 08:15	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 5.3
<b>Client ID:</b> HZBS0084AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/09/2009 23:04	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.44 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			148	185	pg/g	80 (26%-138%)
37Cl-2,3,7,8-TCDD			15.6	18.5	pg/g	84 (35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091002	<b>Date Collected:</b> 10/01/2009 08:15	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 5.3
<b>Client ID:</b> HZBS0084AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/12/2009 15:53	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12oct09a-7		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.44 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF	JK	0.338	pg/g	0.0729	0.923

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091003	<b>Date Collected:</b> 10/01/2009 13:30	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 3.2
<b>Client ID:</b> HZBS0123AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/09/2009 23:52	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-9		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.21 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.164	pg/g	0.164	0.921
40321-76-4	1,2,3,7,8-PeCDD	U	.172	pg/g	0.172	4.61
39227-28-6	1,2,3,4,7,8-HxCDD	U	.193	pg/g	0.193	4.61
57653-85-7	1,2,3,6,7,8-HxCDD	U	.201	pg/g	0.201	4.61
19408-74-3	1,2,3,7,8,9-HxCDD	U	.208	pg/g	0.208	4.61
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.628	pg/g	0.531	4.61
3268-87-9	1,2,3,4,5,6,7,8-OCDD	JK	3.87	pg/g	0.930	9.21
51207-31-9	2,3,7,8-TCDF	J	0.356	pg/g	0.201	0.921
57117-41-6	1,2,3,7,8-PeCDF	U	.143	pg/g	0.143	4.61
57117-31-4	2,3,4,7,8-PeCDF	U	.149	pg/g	0.149	4.61
70648-26-9	1,2,3,4,7,8-HxCDF	U	.141	pg/g	0.141	4.61
57117-44-9	1,2,3,6,7,8-HxCDF	U	.145	pg/g	0.145	4.61
60851-34-5	2,3,4,6,7,8-HxCDF	U	.144	pg/g	0.144	4.61
72918-21-9	1,2,3,7,8,9-HxCDF	U	.223	pg/g	0.223	4.61
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK	0.214	pg/g	0.188	4.61
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.367	pg/g	0.367	4.61
39001-02-0	1,2,3,4,5,6,7,8-OCDF	U	.928	pg/g	0.928	9.21
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	U	.164	pg/g	0.164	
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.172	pg/g	0.172	
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	U	.193	pg/g	0.193	
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs		1.67	pg/g	0.531	
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.632	pg/g	0.201	
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		0.507	pg/g	0.0912	
55684-94-1	Total Hexachlorodibenzofuran with EMPCs		0.260	pg/g	0.141	
38998-75-3	Total Heptachlorodibenzofuran with EMPCs		0.214	pg/g	0.188	
	TEQ WHO2005 ND=0 with EMPCs		0.0451	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.112	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		171	184	pg/g	93	(25%-164%)
13C-1,2,3,7,8-PeCDD		155	184	pg/g	84	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		173	184	pg/g	94	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		172	184	pg/g	93	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		153	184	pg/g	83	(23%-140%)
13C-OCDD		225	368	pg/g	61	(17%-157%)
13C-2,3,7,8-TCDF		176	184	pg/g	95	(25%-164%)
13C-1,2,3,7,8-PeCDF		169	184	pg/g	92	(24%-185%)
13C-2,3,4,7,8-PeCDF		163	184	pg/g	89	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		179	184	pg/g	97	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		169	184	pg/g	92	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		177	184	pg/g	96	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		164	184	pg/g	89	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		165	184	pg/g	90	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091003	<b>Date Collected:</b> 10/01/2009 13:30	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 3.2
<b>Client ID:</b> HZBS0123AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/09/2009 23:52	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-9		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.21 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			149	184	pg/g	81 (26%-138%)
37Cl-2,3,7,8-TCDD			16.8	18.4	pg/g	91 (35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091003	<b>Date Collected:</b> 10/01/2009 13:30	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 3.2
<b>Client ID:</b> HZBS0123AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/12/2009 16:35	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12oct09a-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.21 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF	JK	0.311	pg/g	0.0801	0.921

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**  
**J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.



**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091004	<b>Date Collected:</b> 10/01/2009 12:30	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 4.4
<b>Client ID:</b> HZBS0124AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/10/2009 00:40	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-10		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.17 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.169	pg/g	0.169	0.936
40321-76-4	1,2,3,7,8-PeCDD	U	.15	pg/g	0.150	4.68
39227-28-6	1,2,3,4,7,8-HxCDD	U	.186	pg/g	0.186	4.68
57653-85-7	1,2,3,6,7,8-HxCDD	U	.21	pg/g	0.210	4.68
19408-74-3	1,2,3,7,8,9-HxCDD	U	.208	pg/g	0.208	4.68
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.419	pg/g	0.419	4.68
3268-87-9	1,2,3,4,5,6,7,8-OCDD	U	.99	pg/g	0.990	9.36
51207-31-9	2,3,7,8-TCDF	JK	0.397	pg/g	0.210	0.936
57117-41-6	1,2,3,7,8-PeCDF	JK	0.139	pg/g	0.119	4.68
57117-31-4	2,3,4,7,8-PeCDF	J	0.152	pg/g	0.122	4.68
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.139	pg/g	0.127	4.68
57117-44-9	1,2,3,6,7,8-HxCDF	U	.136	pg/g	0.136	4.68
60851-34-5	2,3,4,6,7,8-HxCDF	U	.141	pg/g	0.141	4.68
72918-21-9	1,2,3,7,8,9-HxCDF	U	.217	pg/g	0.217	4.68
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.195	pg/g	0.195	4.68
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.382	pg/g	0.382	4.68
39001-02-0	1,2,3,4,5,6,7,8-OCDF	U	.957	pg/g	0.957	9.36
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	U	.169	pg/g	0.169	
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.15	pg/g	0.150	
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	U	.186	pg/g	0.186	
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	U	.419	pg/g	0.419	
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.667	pg/g	0.210	
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		0.290	pg/g	0.119	
55684-94-1	Total Hexachlorodibenzofuran with EMPCs		0.139	pg/g	0.127	
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	U	.195	pg/g	0.195	
	TEQ WHO2005 ND=0 with EMPCs		0.103	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.286	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		175	187	pg/g	94	(25%-164%)
13C-1,2,3,7,8-PeCDD		163	187	pg/g	87	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		173	187	pg/g	92	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		173	187	pg/g	92	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		145	187	pg/g	78	(23%-140%)
13C-OCDD		215	374	pg/g	57	(17%-157%)
13C-2,3,7,8-TCDF		183	187	pg/g	98	(25%-164%)
13C-1,2,3,7,8-PeCDF		176	187	pg/g	94	(24%-185%)
13C-2,3,4,7,8-PeCDF		171	187	pg/g	92	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		178	187	pg/g	95	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		167	187	pg/g	89	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		178	187	pg/g	95	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		161	187	pg/g	86	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		163	187	pg/g	87	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091004	<b>Date Collected:</b> 10/01/2009 12:30	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 4.4
<b>Client ID:</b> HZBS0124AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/10/2009 00:40	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-10		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.17 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			143	187	pg/g	76 (26%-138%)
37Cl-2,3,7,8-TCDD			16.9	18.7	pg/g	90 (35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091004	<b>Date Collected:</b> 10/01/2009 12:30	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 4.4
<b>Client ID:</b> HZBS0124AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/12/2009 16:56	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12oct09a-9		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.17 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.320	pg/g	0.0713	0.936

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091005	<b>Date Collected:</b> 09/30/2009 10:12	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 6.1
<b>Client ID:</b> HZBS0081AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/10/2009 01:28	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-11		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.61 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.146	pg/g	0.146	0.917
40321-76-4	1,2,3,7,8-PeCDD	U	.138	pg/g	0.138	4.58
39227-28-6	1,2,3,4,7,8-HxCDD	U	.174	pg/g	0.174	4.58
57653-85-7	1,2,3,6,7,8-HxCDD	U	.193	pg/g	0.193	4.58
19408-74-3	1,2,3,7,8,9-HxCDD	U	.193	pg/g	0.193	4.58
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.339	pg/g	0.339	4.58
3268-87-9	1,2,3,4,5,6,7,8-OCDD	U	.836	pg/g	0.836	9.17
51207-31-9	2,3,7,8-TCDF	J	0.270	pg/g	0.178	0.917
57117-41-6	1,2,3,7,8-PeCDF	JK	0.125	pg/g	0.099	4.58
57117-31-4	2,3,4,7,8-PeCDF	U	.104	pg/g	0.104	4.58
70648-26-9	1,2,3,4,7,8-HxCDF	U	.12	pg/g	0.120	4.58
57117-44-9	1,2,3,6,7,8-HxCDF	U	.123	pg/g	0.123	4.58
60851-34-5	2,3,4,6,7,8-HxCDF	U	.129	pg/g	0.129	4.58
72918-21-9	1,2,3,7,8,9-HxCDF	U	.187	pg/g	0.187	4.58
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.166	pg/g	0.166	4.58
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.336	pg/g	0.336	4.58
39001-02-0	1,2,3,4,5,6,7,8-OCDF	U	.778	pg/g	0.778	9.17
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	U	.146	pg/g	0.146	
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.138	pg/g	0.138	
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	U	.174	pg/g	0.174	
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	U	.339	pg/g	0.339	
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.270	pg/g	0.178	
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		0.125	pg/g	0.099	
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	U	.12	pg/g	0.120	
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	U	.166	pg/g	0.166	
	TEQ WHO2005 ND=0 with EMPCs		0.0307	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.0752	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		179	183	pg/g	97	(25%-164%)
13C-1,2,3,7,8-PeCDD		166	183	pg/g	90	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		176	183	pg/g	96	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		176	183	pg/g	96	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		149	183	pg/g	81	(23%-140%)
13C-OCDD		217	367	pg/g	59	(17%-157%)
13C-2,3,7,8-TCDF		185	183	pg/g	101	(25%-164%)
13C-1,2,3,7,8-PeCDF		179	183	pg/g	98	(24%-185%)
13C-2,3,4,7,8-PeCDF		171	183	pg/g	93	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		175	183	pg/g	96	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		167	183	pg/g	91	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		175	183	pg/g	95	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		162	183	pg/g	88	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		162	183	pg/g	88	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091005	<b>Date Collected:</b> 09/30/2009 10:12	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 6.1
<b>Client ID:</b> HZBS0081AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/10/2009 01:28	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b09oct09a-11		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.61 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			142	183	pg/g	77 (26%-138%)
37Cl-2,3,7,8-TCDD			16.8	18.3	pg/g	91 (35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 238462	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1091005	<b>Date Collected:</b> 09/30/2009 10:12	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 10/07/2009 09:30	<b>%Moisture:</b> 6.1
<b>Client ID:</b> HZBS0081AS002		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 2752	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/12/2009 17:18	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12oct09a-10		<b>Dilution:</b> 1
<b>Prep Batch:</b> 2692	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 08-OCT-09	<b>Aliquot:</b> 11.61 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.282	pg/g	0.0644	0.917

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.



March 04, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05452  
Project Name: ISRA Sampling, August 2009  
Work Order: 238543  
SDG: 238543

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 06, 2009 and October 07, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHAG20091006\_00  
Enclosures

GC  
SEMIVOLATILE  
PCB  
ANALYSIS



**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 238543  
Lab Sample ID: 238543001

Client: SSFL001  
Date Collected: 10/06/2009 10:10  
Date Received: 10/07/2009 08:45

Project: SSFL00160  
Matrix: Soil  
%Moisture: 7.1  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD1A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET0242S001  
Batch ID: 910869  
Run Date: 10/12/2009 13:35  
Data File: Dual Column  
Prep Batch: 910867  
Prep Date: 10/09/2009 21:06

Method: SW846 8082  
Analyst: YS1  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.59	ug/kg	1.20	3.59	15.0	042f4201.d
11104-28-2	Aroclor-1221	U	3.59	ug/kg	1.20	3.59	15.0	042f4201.d
11141-16-5	Aroclor-1232	U	3.59	ug/kg	1.20	3.59	15.0	042f4201.d
53469-21-9	Aroclor-1242	U	3.59	ug/kg	1.20	3.59	15.0	042f4201.d
12672-29-6	Aroclor-1248	U	3.59	ug/kg	1.20	3.59	15.0	042f4201.d
11097-69-1	Aroclor-1254	U	3.59	ug/kg	1.20	3.59	15.0	042f4201.d
11096-82-5	Aroclor-1260	U	3.59	ug/kg	1.20	3.59	15.0	042f4201.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
4cmx	5.60	7.18	ug/kg	78.0	(34%-105%)	042f4201.d
Decachlorobiphenyl	5.80	7.18	ug/kg	80.8	(33%-115%)	042f4201.d

**Comments:**

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

**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 238543  
Lab Sample ID: 238543002

Client: SSFL001  
Date Collected: 10/06/2009 10:30  
Date Received: 10/07/2009 08:45

Project: SSFL00160  
Matrix: Soil  
%Moisture: 3.1  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD1A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET1000S001  
Batch ID: 910869  
Run Date: 10/12/2009 14:12  
Data File: Dual Column  
Prep Batch: 910867  
Prep Date: 10/09/2009 21:06

Method: SW846 8082  
Analyst: YS1  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30.04 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.43	ug/kg	1.14	3.43	15.0	045f4501.d
11104-28-2	Aroclor-1221	U	3.43	ug/kg	1.14	3.43	15.0	045f4501.d
11141-16-5	Aroclor-1232	U	3.43	ug/kg	1.14	3.43	15.0	045f4501.d
53469-21-9	Aroclor-1242	U	3.43	ug/kg	1.14	3.43	15.0	045f4501.d
12672-29-6	Aroclor-1248	U	3.43	ug/kg	1.14	3.43	15.0	045f4501.d
11097-69-1	Aroclor-1254		108	ug/kg	1.14	3.43	15.0	045f4501.d
11096-82-5	Aroclor-1260		39.4	ug/kg	1.14	3.43	15.0	045f4501.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
Decachlorobiphenyl	3.75	6.87	ug/kg	54.5	(33%-115%)	045b4501.d
4cmx	3.80	6.87	ug/kg	55.3	(34%-105%)	045f4501.d

**Comments:**

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

**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 238543  
Lab Sample ID: 238543003

Client: SSFL001  
Date Collected: 10/06/2009 10:35  
Date Received: 10/07/2009 08:45

Project: SSFL00160  
Matrix: Soil  
%Moisture: 1.8  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD1A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET1001S001  
Batch ID: 910010  
Run Date: 10/09/2009 11:26  
Data File: Dual Column  
Prep Batch: 910009  
Prep Date: 10/08/2009 10:37

Method: SW846 8082  
Analyst: YS1  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30.03 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.39	ug/kg	1.13	3.39	15.0	030f3001.d
11104-28-2	Aroclor-1221	U	3.39	ug/kg	1.13	3.39	15.0	030f3001.d
11141-16-5	Aroclor-1232	U	3.39	ug/kg	1.13	3.39	15.0	030f3001.d
53469-21-9	Aroclor-1242		36.1	ug/kg	1.13	3.39	15.0	030b3001.d
12672-29-6	Aroclor-1248	U	3.39	ug/kg	1.13	3.39	15.0	030f3001.d
11097-69-1	Aroclor-1254		46.0	ug/kg	1.13	3.39	15.0	030f3001.d
11096-82-5	Aroclor-1260		12.4	ug/kg	1.13	3.39	15.0	030f3001.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
4cmx	4.21	6.78	ug/kg	62.2	(34%-105%)	030b3001.d
Decachlorobiphenyl	4.04	6.78	ug/kg	59.6	(33%-115%)	030b3001.d

**Comments:**

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

**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 238543  
Lab Sample ID: 238543004

Client: SSFL001  
Date Collected: 10/06/2009 10:38  
Date Received: 10/07/2009 08:45

Project: SSFL00160  
Matrix: Soil  
%Moisture: 2.6  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD1A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET1001S002  
Batch ID: 910010  
Run Date: 10/09/2009 11:39  
Data File: Dual Column  
Prep Batch: 910009  
Prep Date: 10/08/2009 10:37

Method: SW846 8082  
Analyst: YS1  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30.12 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.41	ug/kg	1.14	3.41	15.0	031f3101.d
11104-28-2	Aroclor-1221	U	3.41	ug/kg	1.14	3.41	15.0	031f3101.d
11141-16-5	Aroclor-1232	U	3.41	ug/kg	1.14	3.41	15.0	031f3101.d
53469-21-9	Aroclor-1242	U	3.41	ug/kg	1.14	3.41	15.0	031f3101.d
12672-29-6	Aroclor-1248	U	3.41	ug/kg	1.14	3.41	15.0	031f3101.d
11097-69-1	Aroclor-1254		22.4	ug/kg	1.14	3.41	15.0	031f3101.d
11096-82-5	Aroclor-1260		8.50	ug/kg	1.14	3.41	15.0	031b3101.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
Decachlorobiphenyl	3.79	6.82	ug/kg	55.6	(33%-115%)	031b3101.d
4cmx	3.67	6.82	ug/kg	53.8	(34%-105%)	031f3101.d

**Comments:**

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

# **Metals Analysis**

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 238543

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 238543001

**BASIS:** Dry Weight

**DATE COLLECTED** 06-OCT-09

**CLIENT ID:** HZET0242S001

**LEVEL:** Low

**DATE RECEIVED** 07-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 92.9

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	4.76	mg/kg		0.106	0.426	0.4	2	MS	BAJ	10/13/09 19:30	091013-1	910436

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
910436	910434	SW846 3050B	0.506	g	50	mL	10/12/09	AXG2

# **Subcontract Data**

## **Asbestos**



Report for:

**Ms. Jackie Trudell**  
**GEL Laboratories, LLC**  
2040 Savage Rd.  
Charleston, SC 29407

---

Regarding: Project: 1891614.05462; SSFL/MWH  
EML ID: 589432

Approved by:

Lab Manager  
Baluswamy Krishnan

Dates of Analysis:  
Asbestos-EPA Method 600/R-93/116: 10-13-2009

Project SOPs: Asbestos-EPA Method 600/R-93/116 (EPA-600/M4-82-020 (SOP 100204))

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This coversheet is included with your report in order to comply with AIHA and ISO accreditation requirements.

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

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Document Number: 200091 - Revision Number: 5



Client: GEL Laboratories, LLC  
C/O: Ms. Jackie Trudell  
Re: 1891614.05462; SSFL/MWH

Date of Sampling: 10-06-2009  
Date of Receipt: 10-08-2009  
Date of Report: 10-13-2009

**ASBESTOS PLM REPORT: EPA-600/M4-82-020 & EPA METHOD 600/R-93-116**

**Total Samples Submitted:** 9  
**Total Samples Analysed:** 9

**Total Samples with Layer Asbestos Content > 1%:** 0

**Location: HZET0242S001, Soil**

Lab ID-Version‡: 2612712-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	1% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

**Location: HZET1000S001, Soil**

Lab ID-Version‡: 2612713-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	2% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

**Location: HZET1001S001, Soil**

Lab ID-Version‡: 2612714-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	1% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

**Location: HZET1001S002, Soil**

Lab ID-Version‡: 2612715-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	1% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

**Location: HZET0237S001, Soil**

Lab ID-Version‡: 2612716-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	1% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

The results relate only to the items tested. Interpretation is left to the company and/or persons who conducted the field work. The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

All samples were received in acceptable condition unless otherwise noted. EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed.

‡ A "Version" greater than 1 indicates amended data.

Client: GEL Laboratories, LLC  
 C/O: Ms. Jackie Trudell  
 Re: 1891614.05462; SSFL/MWH

Date of Sampling: 10-06-2009  
 Date of Receipt: 10-08-2009  
 Date of Report: 10-13-2009

**ASBESTOS PLM REPORT: EPA-600/M4-82-020 & EPA METHOD 600/R-93-116**

**Location: HZET0238S001, Soil**

Lab ID-Version‡: 2612717-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	1% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

**Location: HZET0239S001, Soil**

Lab ID-Version‡: 2612718-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	1% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

**Location: HZET0240S001, Soil**

Lab ID-Version‡: 2612719-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	3% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

**Location: HZET0241S001, Soil**

Lab ID-Version‡: 2612720-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	1% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

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March 04, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 239273  
SDG: 239273

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 21, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHAG20091019\_00  
Enclosures

GC  
SEMIVOLATILE  
PCB  
ANALYSIS

**PCB  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 239273	<b>Client:</b> SSFL001	<b>Project:</b> SSFL00160
<b>Lab Sample ID:</b> 239273003	<b>Date Collected:</b> 10/19/2009 10:00	<b>Matrix:</b> Soil
<b>Client Sample:</b> HVS-2A	<b>Date Received:</b> 10/21/2009 08:50	<b>%Moisture:</b> 5
<b>Client ID:</b> HZET1002S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 914083	<b>Method:</b> SW846 8082	<b>SOP Ref:</b> GL-OA-E-040
<b>Run Date:</b> 10/22/2009 10:48	<b>Analyst:</b> JAOC	<b>Instrument:</b> ECD2A.I
<b>Data File:</b> Dual Column	<b>Inj. Vol:</b> 1 uL	<b>Dilution:</b> 1
<b>Prep Batch:</b> 914082	<b>Prep Method:</b> SW846 3550B	<b>Prep SOP Ref:</b> GL-OA-E-010
<b>Prep Date:</b> 10/21/2009 09:24	<b>Aliquot:</b> 30.02 g	<b>Final Volume:</b> 1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.51	ug/kg	1.17	3.51	15.0	021f2101.d
11104-28-2	Aroclor-1221	U	3.51	ug/kg	1.17	3.51	15.0	021f2101.d
11141-16-5	Aroclor-1232	U	3.51	ug/kg	1.17	3.51	15.0	021f2101.d
53469-21-9	Aroclor-1242	U	3.51	ug/kg	1.17	3.51	15.0	021f2101.d
12672-29-6	Aroclor-1248	U	3.51	ug/kg	1.17	3.51	15.0	021f2101.d
11097-69-1	Aroclor-1254	U	3.51	ug/kg	1.17	3.51	15.0	021f2101.d
11096-82-5	Aroclor-1260	U	3.51	ug/kg	1.17	3.51	15.0	021f2101.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
4cmx	5.29	7.01	ug/kg	75.5	(34%-105%)	021b2101.d
Decachlorobiphenyl	5.51	7.01	ug/kg	78.6	(33%-115%)	021b2101.d

**Comments:**

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

# **Metals Analysis**

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 239273

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 239273001

**BASIS:** Dry Weight

**DATE COLLECTED** 19-OCT-09

**CLIENT ID:** HZET0726S001

**LEVEL:** Low

**DATE RECEIVED** 21-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 97.8

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-50-8	Copper	9.76	mg/kg	N	0.337	1.02	0.2	10	MS	BAJ	10/23/09 11:40	091023-1	914309

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
914309	914308	SW846 3050B	0.5	g	50	mL	10/21/09	AXG2

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 239273

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 239273002

**BASIS:** Dry Weight

**DATE COLLECTED** 19-OCT-09

**CLIENT ID:** HZET0727S001

**LEVEL:** Low

**DATE RECEIVED** 21-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 90

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-50-8	Copper	10.4	mg/kg	N	0.356	1.08	0.2	10	MS	BAJ	10/23/09 11:49	091023-1	914309

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
914309	914308	SW846 3050B	0.515	g	50	mL	10/21/09	AXG2



**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 239273

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 239273004

**BASIS:** Dry Weight

**DATE COLLECTED** 19-OCT-09

**CLIENT ID:** HZET1100S001

**LEVEL:** Low

**DATE RECEIVED** 21-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 95.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	4.63	mg/kg	N	0.102	0.406	0.4	2	MS	BAJ	10/23/09 11:29	091023-1	914309

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
914309	914308	SW846 3050B	0.517	g	50	mL	10/21/09	AXG2

# **Subcontract Data**

## **Asbestos**



## EMLab P&K

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Report for:

**Ms. Jackie Trudell**  
**GEL Laboratories, LLC**  
2040 Savage Rd.  
Charleston, SC 29407

---

Regarding: Project: Boeing; 1891614.05462  
EML ID: 592860

Approved by:

Lab Manager  
Baluswamy Krishnan

Dates of Analysis:  
Asbestos-EPA Method 600/R-93/116: 10-21-2009

Project SOPs: Asbestos-EPA Method 600/R-93/116 (EPA-600/M4-82-020 (SOP 100204))

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Document Number: 200091 - Revision Number: 5

Client: GEL Laboratories, LLC  
 C/O: Ms. Jackie Trudell  
 Re: Boeing; 1891614.05462

Date of Sampling: 10-19-2009  
 Date of Receipt: 10-20-2009  
 Date of Report: 10-21-2009

**ASBESTOS PLM REPORT: EPA-600/M4-82-020 & EPA METHOD 600/R-93-116**

**Total Samples Submitted:** 1

**Total Samples Analysed:** 1

**Total Samples with Layer Asbestos Content > 1%:** 0

**Location: HZET1002S001**

Lab ID-Version‡: 2628573-1

Sample Layers	Asbestos Content
Brown Soil	ND
<b>Composite Non-Asbestos Fibrous Content:</b>	1% Cellulose
<b>Sample Composite Homogeneity:</b>	Moderate

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TestAmerica Environmental Microbiology Laboratory, Inc.

EMLab ID: 592860, Page 1 of 1

# High Resolution Dioxin and Furan Analysis

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 239273	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1102001	<b>Date Collected:</b> 10/19/2009 08:55	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soils	<b>Date Received:</b> 10/20/2009 12:00	<b>%Moisture:</b> 2.6
<b>Client ID:</b> HZET0726S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3132	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/21/2009 18:46	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21oct09a-5		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3053	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 20-OCT-09	<b>Aliquot:</b> 12.14 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0893	pg/g	0.0893	0.423
40321-76-4	1,2,3,7,8-PeCDD	U	.0711	pg/g	0.0711	2.12
39227-28-6	1,2,3,4,7,8-HxCDD	U	.0914	pg/g	0.0914	2.12
57653-85-7	1,2,3,6,7,8-HxCDD	U	.104	pg/g	0.104	2.12
19408-74-3	1,2,3,7,8,9-HxCDD	JK	0.124	pg/g	0.102	2.12
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK	0.184	pg/g	0.164	2.12
3268-87-9	1,2,3,4,5,6,7,8-OCDD	J	0.800	pg/g	0.266	4.23
51207-31-9	2,3,7,8-TCDF	J	0.186	pg/g	0.124	0.423
57117-41-6	1,2,3,7,8-PeCDF	U	.0655	pg/g	0.0655	2.12
57117-31-4	2,3,4,7,8-PeCDF	JK	0.0745	pg/g	0.0631	2.12
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0943	pg/g	0.0943	2.12
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0978	pg/g	0.0978	2.12
60851-34-5	2,3,4,6,7,8-HxCDF	U	.102	pg/g	0.102	2.12
72918-21-9	1,2,3,7,8,9-HxCDF	U	.146	pg/g	0.146	2.12
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK	0.144	pg/g	0.0858	2.12
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.145	pg/g	0.145	2.12
39001-02-0	1,2,3,4,5,6,7,8-OCDF	U	.227	pg/g	0.227	4.23
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	U	.0893	pg/g	0.0893	0.423
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.0711	pg/g	0.0711	2.12
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	0.124	pg/g	0.0914	2.12
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	J	0.184	pg/g	0.164	2.12
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs	J	0.335	pg/g	0.124	0.423
30402-15-4	Total Pentachlorodibenzofuran with EMPCs	J	0.0745	pg/g	0.0435	2.12
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	U	.0943	pg/g	0.0943	2.12
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	J	0.144	pg/g	0.0858	2.12
	TEQ WHO2005 ND=0 with EMPCs		0.0568	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.171	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		151	169	pg/g	89	(25%-164%)
13C-1,2,3,7,8-PeCDD		147	169	pg/g	87	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		145	169	pg/g	86	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		145	169	pg/g	86	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		137	169	pg/g	81	(23%-140%)
13C-OCDD		266	338	pg/g	79	(17%-157%)
13C-2,3,7,8-TCDF		146	169	pg/g	86	(24%-169%)
13C-1,2,3,7,8-PeCDF		145	169	pg/g	86	(24%-185%)
13C-2,3,4,7,8-PeCDF		149	169	pg/g	88	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		145	169	pg/g	86	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		138	169	pg/g	81	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		144	169	pg/g	85	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		144	169	pg/g	85	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		137	169	pg/g	81	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 239273	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1102001	<b>Date Collected:</b> 10/19/2009 08:55	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soils	<b>Date Received:</b> 10/20/2009 12:00	<b>%Moisture:</b> 2.6
<b>Client ID:</b> HZET0726S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3132	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/21/2009 18:46	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21oct09a-5		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3053	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 20-OCT-09	<b>Aliquot:</b> 12.14 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			143	169	pg/g	85 (26%-138%)
37Cl-2,3,7,8-TCDD			15.0	16.9	pg/g	88 (35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 239273	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1102001	<b>Date Collected:</b> 10/19/2009 08:55	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soils	<b>Date Received:</b> 10/20/2009 12:00	<b>%Moisture:</b> 2.6
<b>Client ID:</b> HZET0726S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3132	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/22/2009 11:51	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b22oct09a-6		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3053	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 20-OCT-09	<b>Aliquot:</b> 12.14 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.267	pg/g	0.0885	0.423

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
---------------------------	------	--------	---------	-------	-----------	-------------------

**Comments:**  
**J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.



**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 239273	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1102002	<b>Date Collected:</b> 10/19/2009 09:05	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soils	<b>Date Received:</b> 10/20/2009 12:00	<b>%Moisture:</b> 10.2
<b>Client ID:</b> HZET0727S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3132	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/21/2009 21:10	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21oct09a-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3053	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 20-OCT-09	<b>Aliquot:</b> 11.94 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0921	pg/g	0.0921	0.466
40321-76-4	1,2,3,7,8-PeCDD	J	0.168	pg/g	0.0742	2.33
39227-28-6	1,2,3,4,7,8-HxCDD	J	0.239	pg/g	0.106	2.33
57653-85-7	1,2,3,6,7,8-HxCDD	JK	0.293	pg/g	0.116	2.33
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.334	pg/g	0.116	2.33
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.453	pg/g	0.190	2.33
3268-87-9	1,2,3,4,5,6,7,8-OCDD	JK	1.42	pg/g	0.345	4.66
51207-31-9	2,3,7,8-TCDF	J	0.371	pg/g	0.099	0.466
57117-41-6	1,2,3,7,8-PeCDF	JK	0.209	pg/g	0.0683	2.33
57117-31-4	2,3,4,7,8-PeCDF	J	0.239	pg/g	0.0694	2.33
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.207	pg/g	0.0724	2.33
57117-44-9	1,2,3,6,7,8-HxCDF	JK	0.233	pg/g	0.0733	2.33
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.352	pg/g	0.0746	2.33
72918-21-9	1,2,3,7,8,9-HxCDF	JK	0.351	pg/g	0.108	2.33
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.332	pg/g	0.091	2.33
55673-89-7	1,2,3,4,7,8,9-HpCDF	J	0.285	pg/g	0.159	2.33
39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	0.841	pg/g	0.283	4.66
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	U	.0921	pg/g	0.0921	0.466
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	J	0.168	pg/g	0.0742	2.33
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	0.865	pg/g	0.106	2.33
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	J	0.453	pg/g	0.190	2.33
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.931	pg/g	0.099	0.466
30402-15-4	Total Pentachlorodibenzofuran with EMPCs	J	0.448	pg/g	0.0683	2.33
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	J	1.14	pg/g	0.0724	2.33
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	J	0.617	pg/g	0.091	2.33
	TEQ WHO2005 ND=0 with EMPCs		0.495	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.541	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		177	186	pg/g	95	(25%-164%)
13C-1,2,3,7,8-PeCDD		177	186	pg/g	95	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	186	pg/g	89	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		176	186	pg/g	94	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		164	186	pg/g	88	(23%-140%)
13C-OCDD		316	373	pg/g	85	(17%-157%)
13C-2,3,7,8-TCDF		167	186	pg/g	90	(24%-169%)
13C-1,2,3,7,8-PeCDF		171	186	pg/g	92	(24%-185%)
13C-2,3,4,7,8-PeCDF		173	186	pg/g	93	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		170	186	pg/g	91	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		170	186	pg/g	91	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		173	186	pg/g	93	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		172	186	pg/g	92	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		165	186	pg/g	89	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 239273	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1102002	<b>Date Collected:</b> 10/19/2009 09:05	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soils	<b>Date Received:</b> 10/20/2009 12:00	<b>%Moisture:</b> 10.2
<b>Client ID:</b> HZET0727S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3132	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/21/2009 21:10	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21oct09a-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3053	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 20-OCT-09	<b>Aliquot:</b> 11.94 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			172	186	pg/g	92 (26%-138%)
37Cl-2,3,7,8-TCDD			17.1	18.6	pg/g	92 (35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 239273	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1102002	<b>Date Collected:</b> 10/19/2009 09:05	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soils	<b>Date Received:</b> 10/20/2009 12:00	<b>%Moisture:</b> 10.2
<b>Client ID:</b> HZET0727S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3132	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/22/2009 12:56	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b22oct09a-9		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3053	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 20-OCT-09	<b>Aliquot:</b> 11.94 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF	JK	0.457	pg/g	0.0994	0.466

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**  
**J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 239273	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1102003	<b>Date Collected:</b> 10/19/2009 12:05	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soils	<b>Date Received:</b> 10/20/2009 12:00	<b>%Moisture:</b> 3.9
<b>Client ID:</b> HZET1100S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3132	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/21/2009 21:58	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21oct09a-9		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3053	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 20-OCT-09	<b>Aliquot:</b> 12.31 g	

CAS No.	Parname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.07	pg/g	0.070	0.423
40321-76-4	1,2,3,7,8-PeCDD	U	.0719	pg/g	0.0719	2.11
39227-28-6	1,2,3,4,7,8-HxCDD	U	.0876	pg/g	0.0876	2.11
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.644	pg/g	0.0957	2.11
19408-74-3	1,2,3,7,8,9-HxCDD	JK	0.893	pg/g	0.0962	2.11
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.151	pg/g	0.136	2.11
3268-87-9	1,2,3,4,5,6,7,8-OCDD	J	0.445	pg/g	0.233	4.23
51207-31-9	2,3,7,8-TCDF	J	0.240	pg/g	0.114	0.423
57117-41-6	1,2,3,7,8-PeCDF	U	.0761	pg/g	0.0761	2.11
57117-31-4	2,3,4,7,8-PeCDF	J	0.0964	pg/g	0.0715	2.11
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0655	pg/g	0.0655	2.11
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.563	pg/g	0.0671	2.11
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0727	pg/g	0.0727	2.11
72918-21-9	1,2,3,7,8,9-HxCDF	JK	0.140	pg/g	0.103	2.11
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK	0.108	pg/g	0.0682	2.11
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.115	pg/g	0.115	2.11
39001-02-0	1,2,3,4,5,6,7,8-OCDF	U	.201	pg/g	0.201	4.23
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	U	.07	pg/g	0.070	0.423
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.0719	pg/g	0.0719	2.11
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	1.54	pg/g	0.0876	2.11
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	J	0.151	pg/g	0.136	2.11
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.578	pg/g	0.114	0.423
30402-15-4	Total Pentachlorodibenzofuran with EMPCs	J	0.179	pg/g	0.0715	2.11
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	J	0.786	pg/g	0.0655	2.11
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	J	0.108	pg/g	0.0682	2.11
	TEQ WHO2005 ND=0 with EMPCs		0.280	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.364	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		158	169	pg/g	93	(25%-164%)
13C-1,2,3,7,8-PeCDD		151	169	pg/g	89	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		154	169	pg/g	91	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		150	169	pg/g	89	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		145	169	pg/g	86	(23%-140%)
13C-OCDD		281	338	pg/g	83	(17%-157%)
13C-2,3,7,8-TCDF		153	169	pg/g	90	(24%-169%)
13C-1,2,3,7,8-PeCDF		149	169	pg/g	88	(24%-185%)
13C-2,3,4,7,8-PeCDF		152	169	pg/g	90	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		155	169	pg/g	92	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		147	169	pg/g	87	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		154	169	pg/g	91	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		154	169	pg/g	91	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		146	169	pg/g	86	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 239273	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1102003	<b>Date Collected:</b> 10/19/2009 12:05	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soils	<b>Date Received:</b> 10/20/2009 12:00	<b>%Moisture:</b> 3.9
<b>Client ID:</b> HZET1100S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3132	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/21/2009 21:58	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21oct09a-9		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3053	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 20-OCT-09	<b>Aliquot:</b> 12.31 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			155	169	pg/g	92 (26%-138%)
37Cl-2,3,7,8-TCDD			15.3	16.9	pg/g	90 (35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 239273	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1102003	<b>Date Collected:</b> 10/19/2009 12:05	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soils	<b>Date Received:</b> 10/20/2009 12:00	<b>%Moisture:</b> 3.9
<b>Client ID:</b> HZET1100S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3132	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 10/22/2009 13:17	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b22oct09a-10		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3053	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 20-OCT-09	<b>Aliquot:</b> 12.31 g	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.294	pg/g	0.0797	0.423

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.



March 05, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 239316  
SDG: 239316H

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 02, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHBM20091001\_00  
Enclosures

# **Metals Analysis**



**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 239316H

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 239316001

**BASIS:** Dry Weight

**DATE COLLECTED** 01-OCT-09

**CLIENT ID:** HVBF33AS01

**LEVEL:** Low

**DATE RECEIVED** 02-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 98

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	13600	mg/kg	*	6.94	20.4	10	1	P	HSC	10/22/09 10:28	102209-1	914297
7440-42-8	Boron	2.01	mg/kg	J	1.02	5.1	5	1	P	HSC	10/22/09 10:28	102209-1	914297

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
914297	914296	SW846 3050B	0.5	g	50	mL	10/21/09	AXG2

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 239316H

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 239316002

**BASIS:** Dry Weight

**DATE COLLECTED** 01-OCT-09

**CLIENT ID:** HVBF33AS02

**LEVEL:** Low

**DATE RECEIVED** 02-OCT-09

**MATRIX:** SOIL

**%SOLIDS:** 95.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	12000	mg/kg	*	6.86	20.2	10	1	P	HSC	10/22/09 10:21	102209-1	914297
7440-42-8	Boron	1.01	mg/kg	U	1.01	5.05	5	1	P	HSC	10/22/09 10:21	102209-1	914297

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
914297	914296	SW846 3050B	0.52	g	50	mL	10/21/09	AXG2



November 03, 2009

Ms. Sarah Von Raesfeld, MWH  
MWH Americas, Inc.  
1340 Treat Blvd. Suite 300  
Walnut Creek, California 94597

Re: Happy Valley  
Project Name: 2009 ISRA Waste Characterizati  
Work Order: 239640  
SDG: 239640

Dear Ms. Von Raesfeld,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 23, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order:  
Chain of Custody:  
Enclosures

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

SSFL001 Boeing – SSFL (MWH)

Client SDG: 239640 GEL Work Order: 239640

**The Qualifiers in this report are defined as follows:**

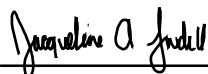
- \* A quality control analyte recovery is outside of specified acceptance criteria
- \*\* Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy—Uncertain identification

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jacqueline Trudell.

Reviewed by



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# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MWH Americas, Inc.  
Address : 1340 Treat Blvd. Suite 300  
Walnut Creek, California 94597

Report Date: November 3, 2009

Contact: Ms. Sarah Von Raesfeld, MWH  
Project: **2009 ISRA Waste Characterization – Outfall  
008**

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Client Sample ID:	ISWC0113S001	Project:	SSFL00158
Sample ID:	239640001	Client ID:	SSFL001
Matrix:	Soil		
Collect Date:	22-OCT-09 09:23		
Receive Date:	23-OCT-09		
Collector:	Client		

---

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Rad Gamma Spec Analysis</b>											
<i>Gammascpec, Gamma, Solid "Dry Weight Corrected"</i>											
Americium-241 14596-10-2	U	-0.03	+/-0.0839	0.129		pCi/g		MXR1 10/28/09	2326	915412	1
Cesium-134 13967709	UI	0.00	+/-0.0385	0.0585		pCi/g					
Cesium-137 10045973		0.0537	+/-0.0358	0.0435	0.050	pCi/g					
Cobalt-60 10198400	U	0.0367	+/-0.0267	0.0491		pCi/g					
Europium-152 14683239	U	-0.0419	+/-0.0694	0.0993		pCi/g					
Europium-154 15585101	U	-0.0456	+/-0.0795	0.128		pCi/g					
Manganese-54 13966319	U	0.028	+/-0.0253	0.0445		pCi/g					
Potassium-40 13966002		22.6	+/-1.90	0.463		pCi/g					
Sodium-22 13966320	U	-0.0168	+/-0.0283	0.0454		pCi/g					
Thorium-228 14274829		1.31	+/-0.123	0.0557		pCi/g					
Thorium-232 7440291		1.17	+/-0.221	0.150		pCi/g					
Uranium-235 15117961	U	0.00624	+/-0.142	0.201		pCi/g					
Uranium-238 7440611	UI	0.00	+/-1.10	1.09		pCi/g					
<b>Rad Gas Flow Proportional Counting</b>											
<i>GFPC, Sr90, solid "Dry Weight Corrected"</i>											
Strontium-90 10098972	U	0.0276	+/-0.0257	0.0414	0.050	pCi/g		MXB1 10/30/09	0743	915633	2
<b>Rad Liquid Scintillation Analysis</b>											
<i>LSC, Tritium Dist, Solid "As Received"</i>											
Tritium 10028-17-8	U	0.182	+/-0.408	0.702	1.00	pCi/g		EXK2 10/30/09	2213	915726	3

**The following Prep Methods were performed**

---

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MWH Americas, Inc.  
Address : 1340 Treat Blvd. Suite 300  
Walnut Creek, California 94597

Report Date: November 3, 2009

Contact: Ms. Sarah Von Raesfeld, MWH  
Project: **2009 ISRA Waste Characterization – Outfall  
008**

---

Client Sample ID: ISWC0113S001      Project: SSFL00158  
Sample ID: 239640001                  Client ID: SSFL001

---

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
-----------	-----------	--------	-------------	----	----	-------	----	---------	------	------	-------	--------

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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL–RAD–A–021	MXP2	10/26/09	1413	915358

---

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE HASL 300, 4.5.2.3/Ga–01–R	
2	EPA 905.0 Modified	
3	EPA 906.0 Modified	

---

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, solid "Dry Weight Corrected"			66.1	(25%–125%)

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: November 3, 2009

Page 1 of 4

MWH Americas, Inc.

1340 Treat Blvd. Suite 300

Walnut Creek, California

Contact: Ms. Sarah Von Raesfeld, MWH

Workorder: 239640

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>											
Batch	915412										
QC1201954586	239640001	DUP									
Americium-241	U	-0.03	U	0.0297	pCi/g	42600			N/A MXR1	10/29/09	21:48
		+/-0.0839		+/-0.107							
Cesium-134	UI	0.00	UI	0.00	pCi/g	22.7			N/A		
		+/-0.0385		+/-0.0351							
Cesium-137		0.0537	U	0.0247	pCi/g	74.0		(0% - 100%)			
		+/-0.0358		+/-0.0195							
Cobalt-60	U	0.0367	U	0.0151	pCi/g	83.4			N/A		
		+/-0.0267		+/-0.0205							
Europium-152	U	-0.0419	U	0.00633	pCi/g	271			N/A		
		+/-0.0694		+/-0.0593							
Europium-154	U	-0.0456	U	-0.0272	pCi/g	50.5			N/A		
		+/-0.0795		+/-0.0684							
Manganese-54	U	0.028	U	-0.0169	pCi/g	808			N/A		
		+/-0.0253		+/-0.0211							
Potassium-40		22.6		22.6	pCi/g	0.310		(0% - 20%)			
		+/-1.90		+/-2.34							
Sodium-22	U	-0.0168	U	-0.00601	pCi/g	94.7			N/A		
		+/-0.0283		+/-0.0242							
Thorium-228		1.31		1.37	pCi/g	4.79		(0% - 20%)			
		+/-0.123		+/-0.151							
Thorium-232		1.17		1.20	pCi/g	2.78		(0% - 20%)			
		+/-0.221		+/-0.239							
Uranium-235	U	0.00624	U	0.0568	pCi/g	160			N/A		
		+/-0.142		+/-0.138							
Uranium-238	UI	0.00	U	0.927	pCi/g	27.5			N/A		
		+/-1.10		+/-1.25							
QC1201954587	LCS										
Americium-241	53.5			57.7	pCi/g		108	(75%-125%)		10/29/09	20:24
				+/-6.19							
Cesium-134			U	-0.201	pCi/g						
				+/-0.243							
Cesium-137	20.5			22.2	pCi/g		109	(75%-125%)			
				+/-2.15							
Cobalt-60	22.0			24.3	pCi/g		110	(75%-125%)			
				+/-2.62							
Europium-152			U	-0.0535	pCi/g						
				+/-0.489							
Europium-154			U	0.0219	pCi/g						
				+/-0.378							
Manganese-54			U	0.147	pCi/g						

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 239640

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>											
Batch	915412										
Potassium-40			U	+/-0.224 0.0709	pCi/g				MXR1	10/29/09	20:24
Sodium-22			U	+/-1.14 0.0114	pCi/g						
Thorium-228			U	+/-0.135 -0.118	pCi/g						
Thorium-232			U	+/-0.230 -1.1	pCi/g						
Uranium-235			U	+/-0.939 -0.0491	pCi/g						
Uranium-238			U	+/-0.663 -6.83	pCi/g						
QC1201954585	MB										
Americium-241			U	+/-7.39 -0.124	pCi/g					10/28/09	23:27
Cesium-134			U	+/-0.060 0.00774	pCi/g						
Cesium-137			U	+/-0.0184 -0.00601	pCi/g						
Cobalt-60			U	+/-0.0168 0.00209	pCi/g						
Europium-152			U	+/-0.0182 -0.0366	pCi/g						
Europium-154			U	+/-0.0457 0.0211	pCi/g						
Manganese-54			U	+/-0.0461 0.0081	pCi/g						
Potassium-40			U	+/-0.0155 -0.284	pCi/g						
Sodium-22			U	+/-0.346 0.00735	pCi/g						
Thorium-228			U	+/-0.0164 -0.018	pCi/g						
Thorium-232			U	+/-0.0402 -0.0141	pCi/g						
Uranium-235			U	+/-0.090 -0.0863	pCi/g						
Uranium-238			U	+/-0.112 -0.403	pCi/g						
				+/-0.679							
<b>Rad Gas Flow</b>											
Batch	915633										
QC1201955171	239640001 DUP										
Strontium-90	U	0.0276	U	-0.0249	pCi/g	0.00			N/AMXB1	10/30/09	15:39





# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 239640

Page 4 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
ND		Analyte concentration is not detected above the detection limit									
NJ		Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
R		Sample results are rejected									
U		Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.									
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									
^		RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.									
h		Preparation or preservation holding time was exceeded									

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

# GEL Chain of Custody and Analytical Request

GEL Laboratories, LLC  
2040 Savage Road  
Charleston, SC 29407  
Phone: (843) 556-8171  
Fax: (843) 766-1178

Project #: \_\_\_\_\_ of \_\_\_\_\_  
GEL Quote #: \_\_\_\_\_  
COC Number <sup>(1)</sup>: \_\_\_\_\_  
PO Number: \_\_\_\_\_

\*\*See www.gel.com for GEL's Sample Acceptance SOP\*\*

GEL Work Order Number: **239640**

Sample Analysis Requested <sup>(5)</sup> (Fill in the number of containers for each test)

Phone #:

Client Name: The Boeing Company - SSFL

Project Name 2009 ISRA Waste Characterization - Outfall 008

Sampling Location: Happy Valley

Address: 5800 Woolsey Canyon Road, Canoga Park CA 91304

Collected by: Shelby Valenzuela Raesfeld

Send Results To: Phil Rutherford, Alex Fischl, Sarah Von

Sample ID  
\* For composites - indicate start and stop date/time

**ISWC01135001**

\*Date Collected (mm-dd-yy)

**10-22-09 0923**

\*Time Collected (Military) (hhmm)

**soil**

Should this sample be considered:

Radioactive **No**

TSCA Regulated **No**

Total number of containers **1**

Gamma Spec by 901.1 **XX**

Tritium by EPA 906.0 **XX**

Sr-90 by EPA 905.0 **XX**

Comments  
Note: extra sample is required for sample specific QC  
**Collected from stock pile**

Preservative Type (6)

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Sample Collection Time Zone  
Pacific  
Eastern  
Central  
Mountain

Remarks: **Gamma Spec should include Na-22, K-40, Mn-54, Co-60, Cs-134, Cs-137, Eu-152, Eu-154, Th-232, U-235, U-238 and Am-241.**

TAT Requested: Normal:  Rush: \_\_\_\_\_ Specify: \_\_\_\_\_ (Subject to Surcharge) Fax Results: Yes / No

Chain of Custody Signatures

Relinquished By (Signed) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received by (signed) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

1. \_\_\_\_\_ 10-22-09 12:59 P.M. Shilling 10/23/09 9:05  
GEL PM: Jackie Trudell

2. \_\_\_\_\_ Date Shipped: \_\_\_\_\_

3. \_\_\_\_\_ Airbill #: \_\_\_\_\_

For Lab Receiving Use Only

Custody Seal Intact? **YES**  NO

Cooler Temp: **4** C

1.) Chain of Custody Number = Client Determined

2.) QC Codes: N = Normal Sample, TB = Trip Blank, ED = Equipment Blank, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite

3.) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.

4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Feal, N=Nas

5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B - 3, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).

6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, BX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY  
YELLOW = FILE  
PINK = CLIENT



# SAMPLE RECEIPT & REVIEW FORM

Client: SSFI SDG/ARCO/Work Order: 239640

Received By: RMS Date Received: 10/23/09

<b>Suspected Hazard Information</b>	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?		<input checked="" type="checkbox"/>	Maximum Counts Observed*:
Classified Radioactive II or III by RSO?		<input checked="" type="checkbox"/>	<u>3000</u>
COC/Samples marked containing PCBs?		<input checked="" type="checkbox"/>	
Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		<input checked="" type="checkbox"/>	

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

Comments:  
Fx: 9457 3163 0729



March 05, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05452 and 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 239908  
SDG: 239908

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 02, 2009 and October 28, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHAG20091001\_00 and MWHAG20091027\_00  
Enclosures

LC/MS/MS  
PERCHLORATE  
ANALYSIS

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: WATER

Extraction Batch ID: 217294

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.

EBQW2250

Date Received: 28-OCT-09

GEL Job No (SDG): 239908

GEL Sample ID: 239908001

Date Filtered: 30-OCT-09

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	31-OCT-09 13:52	per1031015a
	Perchlorate-O(18)			0.483	ug/L		1	31-OCT-09 13:52	per1031015a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X Concentrated Extract Volume X  $\frac{1}{\%Solids}$  Aliquot

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** WATER  
**Extraction Batch ID:** 917294  
**Extraction Type:** Filter/DAI  
**Client Sample No.** FBQW2245  
**Date Received:** 28-OCT-09  
**GEL Job No (SDG):** 239908  
**GEL Sample ID:** 239908002  
**Date Filtered:** 30-OCT-09  
**Injection Volume (uL):** 20

**Sample Volume/Weight:** 10.0 mL  
**Concentrated Extract Volume:** 10.0

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	31-OCT-09 14:15	per1031018a
	Perchlorate-O(18)			0.474	ug/L		1	31-OCT-09 14:15	per1031018a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  $\frac{\text{Concentrated Extract Volume}}{\text{Instrument Value X Aliquot}} \times \frac{1}{\% \text{Solids}}$



Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 917297

Extraction Type: Solid Prep

Sample Volume/Weight: 100 g

Concentrated Extract Volume: 100

Client Sample No.

HZBS0181S001

Date Received: 28-OCT-09

GEL Job No (SDG): 239908

GEL Sample ID: 239908003

Date Filtered: 30-OCT-09

Injection Volume (uL): 20

%Solids: 80

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.0775	ug/L	J	1	31-OCT-09 15:08	per1031025a
	Perchlorate-O(18)			0.552	ug/L		1	31-OCT-09 15:08	per1031025a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 917297

Extraction Type: Solid Prep

Sample Volume/Weight: 100 g

Concentrated Extract Volume: 100

Client Sample No.  
HZBS0181S002

Date Received: 28-OCT-09

GEL Job No (SDG): 239908

GEL Sample ID: 239908004

Date Filtered: 30-OCT-09

Injection Volume (uL): 20

%Solids: 92.5

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	31-OCT-09 15:31	per1031028a
	Perchlorate-O(18)			0.504	ug/L		1	31-OCT-09 15:31	per1031028a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X Concentrated Extract Volume X 1  
Aliquot %Solids

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 917297  
**Extraction Type:** Solid Prep  
**Sample Volume/Weight:** 100 g  
**Concentrated Extract Volume:** 100

**Client Sample No.**  
HZBS0183S001  
**Date Received:** 28-OCT-09  
**GEL Job No (SDG):** 239908  
**GEL Sample ID:** 239908005  
**Date Filtered:** 30-OCT-09  
**Injection Volume (uL):** 20  
**%Solids:** 87

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.173	ug/L	J	1	31-OCT-09 15:38	per1031029a
	Perchlorate-O(18)			0.544	ug/L		1	31-OCT-09 15:38	per1031029a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  $\frac{\text{Concentrated Extract Volume}}{\text{Instrument Value X Aliquot}} \times \frac{1}{\% \text{Solids}}$

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 917297  
**Extraction Type:** Solid Prep  
**Client Sample No.** HZBS0183S002  
**Date Received:** 28-OCT-09  
**GEL Job No (SDG):** 239908  
**GEL Sample ID:** 239908006  
**Date Filtered:** 30-OCT-09  
**Injection Volume (uL):** 20  
**Sample Volume/Weight:** 100 g  
**%Solids:** 91.6

**Concentrated Extract Volume:** 100

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	31-OCT-09 15:46	per1031030a
	Perchlorate-O(18)			0.572	ug/L		1	31-OCT-09 15:46	per1031030a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  $\frac{\text{Concentrated Extract Volume}}{\text{Instrument Value}} \times \frac{\% \text{Solids}}{\text{Aliquot}}$

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 917297  
**Extraction Type:** Solid Prep  
**Client Sample No.:** HZBS0184S001  
**Date Received:** 28-OCT-09  
**GEL Job No (SDG):** 239908  
**GEL Sample ID:** 239908007  
**Date Filtered:** 30-OCT-09  
**Injection Volume (uL):** 20  
**Sample Volume/Weight:** 100 g  
**%Solids:** 87

**Concentrated Extract Volume:** 100

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.720	ug/L		1	31-OCT-09 15:54	per1031031a
	Perchlorate-O(18)			0.515	ug/L		1	31-OCT-09 15:54	per1031031a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration = Instrument Value X Concentrated Extract Volume X %Solids Aliquot

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 917297  
**Extraction Type:** Solid Prep  
**Sample Volume/Weight:** 100 g  
**Concentrated Extract Volume:** 100

**Client Sample No.**  
HZBS0184S002  
**Date Received:** 28-OCT-09  
**GEL Job No (SDG):** 239908  
**GEL Sample ID:** 239908008  
**Date Filtered:** 30-OCT-09  
**Injection Volume (uL):** 20  
**%Solids:** 88

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	31-OCT-09 16:24	per1031035a
	Perchlorate-O(18)			0.508	ug/L		1	31-OCT-09 16:24	per1031035a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration = Instrument Value X Concentrated Extract Volume X  $\frac{1}{\%Solids}$  Aliquot

Perchlorate Analysis Data Sheet

**Lab Name:** GEL Laboratories LLC  
**Lab Code:** GEL  
**Instrument:** LCMSMS  
**Method:** SW846 6850 Modified  
**Matrix:** SOIL  
**Extraction Batch ID:** 917297  
**Extraction Type:** Solid Prep  
**Sample Volume/Weight:** 100 g  
**Concentrated Extract Volume:** 100

**Client Sample No.**  
HZBS0185S001

**Date Received:** 28-OCT-09  
**GEL Job No (SDG):** 239908  
**GEL Sample ID:** 239908009  
**Date Filtered:** 30-OCT-09  
**Injection Volume (uL):** 20  
**%Solids:** 88

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.141	ug/L	J	1	31-OCT-09 16:31	per1031036a
	Perchlorate-O(18)			0.527	ug/L		1	31-OCT-09 16:31	per1031036a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =  $\frac{\text{Concentrated Extract Volume}}{\text{Instrument Value} \times \text{Aliquot}} \times \% \text{Solids}$

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 917297

Extraction Type: Solid Prep

Sample Volume/Weight: 100 g

Concentrated Extract Volume: 100

Client Sample No.

HZBS0185S002

Date Received: 28-OCT-09

GEL Job No (SDG): 239908

GEL Sample ID: 239908010

Date Filtered: 30-OCT-09

Injection Volume (uL): 20

%Solids: 95.4

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	31-OCT-09 16:39	per1031037a
	Perchlorate-O(18)			0.492	ug/L		1	31-OCT-09 16:39	per1031037a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X Concentrated Extract Volume X  $\frac{1}{\%Solids}$   
Aliquot



Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 917297

Extraction Type: Solid Prep

Sample Volume/Weight: 100 g

Concentrated Extract Volume: 100

Client Sample No.

HVBF33AS02

Date Received: 02-OCT-09

GEL Job No (SDG): 239908

GEL Sample ID: 239908012

Date Filtered: 30-OCT-09

Injection Volume (uL): 20

%Solids: 95.3

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.0605	ug/L	HJh	1	31-OCT-09 16:46	per1031038a
	Perchlorate-O(18)			0.553	ug/L		1	31-OCT-09 16:46	per1031038a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X X Concentrated Extract Volume X  $\frac{1}{\%Solids}$   
Aliquot

# **General Chemistry**

## **Analysis**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10-D  
          Westminster, Colorado 80031  
Contact: Ms. Kim Schultz  
Project: **ISRA Sampling, August 2009**

Report Date: November 3, 2009

Client Sample ID: HZBS0184S001  
Sample ID: 239908007  
Matrix: Soil  
Collect Date: 27-OCT-09 13:20  
Receive Date: 28-OCT-09  
Collector: Client

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR11/03/09	0601	917474	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	



# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10-D  
          Westminster, Colorado 80031  
Contact: Ms. Kim Schultz  
Project: **ISRA Sampling, August 2009**

Report Date: November 3, 2009

Client Sample ID: HZBS0185S001  
Sample ID: 239908009  
Matrix: Soil  
Collect Date: 27-OCT-09 12:35  
Receive Date: 28-OCT-09  
Collector: Client

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR11/03/09	0652	917474	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10-D  
          Westminster, Colorado 80031  
Contact: Ms. Kim Schultz  
Project: **ISRA Sampling, August 2009**

Report Date: November 3, 2009

Client Sample ID: HZBS0183S002  
Sample ID: 239908006  
Matrix: Soil  
Collect Date: 27-OCT-09 11:15  
Receive Date: 28-OCT-09  
Collector: Client

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR11/03/09	0444	917474	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
#10-D  
Westminster, Colorado 80031  
Contact: Ms. Kim Schultz  
Project: **ISRA Sampling, August 2009**

Report Date: November 3, 2009

Client Sample ID: HZBS0185S002  
Sample ID: 239908010  
Matrix: Soil  
Collect Date: 27-OCT-09 13:00  
Receive Date: 28-OCT-09  
Collector: Client  
Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR11/03/09	0718	917474	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10-D  
          Westminster, Colorado 80031  
Contact: Ms. Kim Schultz  
Project: **ISRA Sampling, August 2009**

Report Date: November 3, 2009

Client Sample ID: EBQW2250  
Sample ID: 239908001  
Matrix: Water  
Collect Date: 27-OCT-09 15:20  
Receive Date: 28-OCT-09  
Collector: Client

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography Federal</b>										
<i>EPA 314.0 Perchlorate by IC "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR111/03/09	0002	917662	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	



# GEL LABORATORIES LLC

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## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10-D  
          Westminster, Colorado 80031  
Contact: Ms. Kim Schultz  
Project: **ISRA Sampling, August 2009**

Report Date: November 3, 2009

Client Sample ID: FBQW2245  
Sample ID: 239908002  
Matrix: Water  
Collect Date: 27-OCT-09 14:50  
Receive Date: 28-OCT-09  
Collector: Client

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography Federal</b>										
<i>EPA 314.0 Perchlorate by IC "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR111/03/09	0027	917662	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10-D  
          Westminster, Colorado 80031  
Contact: Ms. Kim Schultz  
Project: **ISRA Sampling, August 2009**

Report Date: November 3, 2009

Client Sample ID: HZBS0181S001  
Sample ID: 239908003  
Matrix: Soil  
Collect Date: 27-OCT-09 10:30  
Receive Date: 28-OCT-09  
Collector: Client

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	J	3.24	1.00	4.00	ug/L	1	MAR11/03/09	0236	917474	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10-D  
          Westminster, Colorado 80031  
Contact: Ms. Kim Schultz  
Project: **ISRA Sampling, August 2009**

Report Date: November 3, 2009

Client Sample ID: HZBS0181S002  
Sample ID: 239908004  
Matrix: Soil  
Collect Date: 27-OCT-09 10:45  
Receive Date: 28-OCT-09  
Collector: Client

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR11/03/09	0352	917474	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10-D  
          Westminster, Colorado 80031  
Contact: Ms. Kim Schultz  
Project: **ISRA Sampling, August 2009**

Report Date: November 3, 2009

Client Sample ID: HZBS0183S001  
Sample ID: 239908005  
Matrix: Soil  
Collect Date: 27-OCT-09 10:55  
Receive Date: 28-OCT-09  
Collector: Client

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR11/03/09	0418	917474	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	



March 05, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 240083  
SDG: 240083

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 30, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHAG20091029\_00  
Enclosures

# **GC/MS Semivolatile Analysis**

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

SDG Number: 240083  
Lab Sample ID: 240083001

Client: SSFL001  
Date Collected: 10/29/2009 14:50  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Water

Client ID: EBQW2251  
Batch ID: 919121  
Run Date: 11/05/2009 20:01  
Data File: s7k0527.d  
Prep Batch: 919120  
Prep Date: 11/05/2009 17:00

Method: SW846 8270C SIM PAH  
Analyst: JMB3  
Inj. Vol: .5 uL  
Prep Method: SW846 3510C  
Aliquot: 1040 mL

Prep Basis: As Received  
SOP Ref: GL-OA-E-009  
Instrument: MSD7.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-013  
Final Volume: 1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
83-32-9	Acenaphthene	U	0.192	ug/L	0.0481	0.192	10.0
129-00-0	Pyrene	U	0.192	ug/L	0.0481	0.192	10.0
91-20-3	Naphthalene	U	0.192	ug/L	0.0481	0.192	10.0
91-57-6	2-Methylnaphthalene	U	0.192	ug/L	0.0481	0.192	10.0
90-12-0	1-Methylnaphthalene	U	0.192	ug/L	0.0481	0.192	10.0
208-96-8	Acenaphthylene	U	0.192	ug/L	0.0481	0.192	10.0
86-73-7	Fluorene	U	0.192	ug/L	0.0481	0.192	10.0
85-01-8	Phenanthrene	U	0.192	ug/L	0.0481	0.192	10.0
120-12-7	Anthracene	U	0.192	ug/L	0.0481	0.192	10.0
206-44-0	Fluoranthene	U	0.192	ug/L	0.0481	0.192	10.0
56-55-3	Benzo(a)anthracene	U	0.192	ug/L	0.0481	0.192	10.0
218-01-9	Chrysene	U	0.192	ug/L	0.0481	0.192	10.0
205-99-2	Benzo(b)fluoranthene	U	0.192	ug/L	0.0481	0.192	10.0
207-08-9	Benzo(k)fluoranthene	U	0.192	ug/L	0.0481	0.192	10.0
50-32-8	Benzo(a)pyrene	U	0.192	ug/L	0.0481	0.192	10.0
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.192	ug/L	0.0481	0.192	10.0
53-70-3	Dibenzo(a,h)anthracene	U	0.192	ug/L	0.0481	0.192	10.0
191-24-2	Benzo(ghi)perylene	U	0.192	ug/L	0.0481	0.192	10.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
5-alpha-Androstane	3.29	4.81	ug/L	68.4	(50%-150%)

**Comments:**

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

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

SDG Number: 240083  
Lab Sample ID: 240083002

Client: SSFL001  
Date Collected: 10/29/2009 10:50  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 7.8

Client ID: HZET0728S001  
Batch ID: 919516  
Run Date: 11/06/2009 16:43  
Data File: s7k0605.d  
Prep Batch: 919514  
Prep Date: 11/05/2009 21:20

Method: SW846 8270C SIM PAH  
Analyst: JMB3  
Inj. Vol: .5 uL  
Prep Method: SW846 3550C  
Aliquot: 30.05 g

Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-009  
Instrument: MSD7.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
83-32-9	Acenaphthene	U	7.22	ug/kg	1.81	7.22	20.0
129-00-0	Pyrene		79.2	ug/kg	1.81	7.22	20.0
91-20-3	Naphthalene	U	7.22	ug/kg	1.08	7.22	20.0
91-57-6	2-Methylnaphthalene	U	7.22	ug/kg	1.81	7.22	20.0
90-12-0	1-Methylnaphthalene	U	7.22	ug/kg	1.81	7.22	20.0
208-96-8	Acenaphthylene	U	7.22	ug/kg	1.81	7.22	20.0
86-73-7	Fluorene	U	7.22	ug/kg	1.81	7.22	20.0
85-01-8	Phenanthrene	J	7.44	ug/kg	1.81	7.22	20.0
120-12-7	Anthracene	J	3.95	ug/kg	1.81	7.22	20.0
206-44-0	Fluoranthene		64.8	ug/kg	1.81	7.22	20.0
56-55-3	Benzo(a)anthracene		68.4	ug/kg	1.81	7.22	20.0
218-01-9	Chrysene		69.3	ug/kg	1.81	7.22	20.0
205-99-2	Benzo(b)fluoranthene		62.1	ug/kg	1.81	7.22	20.0
207-08-9	Benzo(k)fluoranthene		30.8	ug/kg	1.81	7.22	20.0
50-32-8	Benzo(a)pyrene		50.4	ug/kg	1.81	7.22	20.0
193-39-5	Indeno(1,2,3-cd)pyrene		20.1	ug/kg	1.81	7.22	20.0
53-70-3	Dibenzo(a,h)anthracene	U	7.22	ug/kg	1.81	7.22	20.0
191-24-2	Benzo(ghi)perylene	J	20.0	ug/kg	1.81	7.22	20.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
5-alpha-Androstane	131	181	ug/kg	72.3	(28%-126%)

**Comments:**

J Value is estimated

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



**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

SDG Number: 240083  
Lab Sample ID: 240083003

Client: SSFL001  
Date Collected: 10/29/2009 11:05  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 1.5

Client ID: HZET0729S001  
Batch ID: 919516  
Run Date: 11/06/2009 17:47  
Data File: s7k0608.d  
Prep Batch: 919514  
Prep Date: 11/05/2009 21:20

Method: SW846 8270C SIM PAH  
Analyst: JMB3  
Inj. Vol: .5 uL  
Prep Method: SW846 3550C  
Aliquot: 30.18 g

Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-009  
Instrument: MSD7.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
83-32-9	Acenaphthene	J	1.97	ug/kg	1.68	6.73	20.0
129-00-0	Pyrene		421	ug/kg	1.68	6.73	20.0
91-20-3	Naphthalene	U	6.73	ug/kg	1.01	6.73	20.0
91-57-6	2-Methylnaphthalene	U	6.73	ug/kg	1.68	6.73	20.0
90-12-0	1-Methylnaphthalene	U	6.73	ug/kg	1.68	6.73	20.0
208-96-8	Acenaphthylene	U	6.73	ug/kg	1.68	6.73	20.0
86-73-7	Fluorene	J	1.84	ug/kg	1.68	6.73	20.0
85-01-8	Phenanthrene		76.9	ug/kg	1.68	6.73	20.0
120-12-7	Anthracene		32.0	ug/kg	1.68	6.73	20.0
206-44-0	Fluoranthene		367	ug/kg	1.68	6.73	20.0
56-55-3	Benzo(a)anthracene		335	ug/kg	1.68	6.73	20.0
218-01-9	Chrysene		351	ug/kg	1.68	6.73	20.0
205-99-2	Benzo(b)fluoranthene		340	ug/kg	1.68	6.73	20.0
207-08-9	Benzo(k)fluoranthene		129	ug/kg	1.68	6.73	20.0
50-32-8	Benzo(a)pyrene		247	ug/kg	1.68	6.73	20.0
193-39-5	Indeno(1,2,3-cd)pyrene		91.8	ug/kg	1.68	6.73	20.0
53-70-3	Dibenzo(a,h)anthracene	U	6.73	ug/kg	1.68	6.73	20.0
191-24-2	Benzo(ghi)perylene		80.3	ug/kg	1.68	6.73	20.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
5-alpha-Androstane	121	168	ug/kg	71.8	(28%-126%)

**Comments:**

J Value is estimated

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

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

SDG Number: 240083  
Lab Sample ID: 240083004

Client: SSFL001  
Date Collected: 10/29/2009 11:25  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 11.1

Client ID: HZET0730S001  
Batch ID: 919516  
Run Date: 11/06/2009 18:09  
Data File: s7k0609.d  
Prep Batch: 919514  
Prep Date: 11/05/2009 21:20

Method: SW846 8270C SIM PAH  
Analyst: JMB3  
Inj. Vol: .5 uL  
Prep Method: SW846 3550C  
Aliquot: 30.19 g

Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-009  
Instrument: MSD7.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
83-32-9	Acenaphthene	U	7.45	ug/kg	1.86	7.45	20.0
129-00-0	Pyrene		32.6	ug/kg	1.86	7.45	20.0
91-20-3	Naphthalene	U	7.45	ug/kg	1.12	7.45	20.0
91-57-6	2-Methylnaphthalene	U	7.45	ug/kg	1.86	7.45	20.0
90-12-0	1-Methylnaphthalene	U	7.45	ug/kg	1.86	7.45	20.0
208-96-8	Acenaphthylene	U	7.45	ug/kg	1.86	7.45	20.0
86-73-7	Fluorene	U	7.45	ug/kg	1.86	7.45	20.0
85-01-8	Phenanthrene	J	6.70	ug/kg	1.86	7.45	20.0
120-12-7	Anthracene	J	2.49	ug/kg	1.86	7.45	20.0
206-44-0	Fluoranthene		31.7	ug/kg	1.86	7.45	20.0
56-55-3	Benzo(a)anthracene	J	18.4	ug/kg	1.86	7.45	20.0
218-01-9	Chrysene	J	16.0	ug/kg	1.86	7.45	20.0
205-99-2	Benzo(b)fluoranthene	J	15.0	ug/kg	1.86	7.45	20.0
207-08-9	Benzo(k)fluoranthene	U	7.45	ug/kg	1.86	7.45	20.0
50-32-8	Benzo(a)pyrene	J	12.3	ug/kg	1.86	7.45	20.0
193-39-5	Indeno(1,2,3-cd)pyrene	J	4.26	ug/kg	1.86	7.45	20.0
53-70-3	Dibenzo(a,h)anthracene	U	7.45	ug/kg	1.86	7.45	20.0
191-24-2	Benzo(ghi)perylene	J	3.92	ug/kg	1.86	7.45	20.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
5-alpha-Androstane	137	186	ug/kg	73.7	(28%-126%)

**Comments:**

J Value is estimated

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

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

SDG Number: 240083  
Lab Sample ID: 240083005

Client: SSFL001  
Date Collected: 10/29/2009 11:45  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 6

Client ID: HZET0731S001  
Batch ID: 919516  
Run Date: 11/06/2009 18:30  
Data File: s7k0610.d  
Prep Batch: 919514  
Prep Date: 11/05/2009 21:20

Method: SW846 8270C SIM PAH  
Analyst: JMB3  
Inj. Vol: .5 uL  
Prep Method: SW846 3550C  
Aliquot: 30.17 g

Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-009  
Instrument: MSD7.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
83-32-9	Acenaphthene	U	7.06	ug/kg	1.76	7.06	20.0
129-00-0	Pyrene		163	ug/kg	1.76	7.06	20.0
91-20-3	Naphthalene	U	7.06	ug/kg	1.06	7.06	20.0
91-57-6	2-Methylnaphthalene	U	7.06	ug/kg	1.76	7.06	20.0
90-12-0	1-Methylnaphthalene	U	7.06	ug/kg	1.76	7.06	20.0
208-96-8	Acenaphthylene	U	7.06	ug/kg	1.76	7.06	20.0
86-73-7	Fluorene	U	7.06	ug/kg	1.76	7.06	20.0
85-01-8	Phenanthrene	J	19.3	ug/kg	1.76	7.06	20.0
120-12-7	Anthracene	J	9.34	ug/kg	1.76	7.06	20.0
206-44-0	Fluoranthene		144	ug/kg	1.76	7.06	20.0
56-55-3	Benzo(a)anthracene		123	ug/kg	1.76	7.06	20.0
218-01-9	Chrysene		125	ug/kg	1.76	7.06	20.0
205-99-2	Benzo(b)fluoranthene		127	ug/kg	1.76	7.06	20.0
207-08-9	Benzo(k)fluoranthene		48.2	ug/kg	1.76	7.06	20.0
50-32-8	Benzo(a)pyrene		96.5	ug/kg	1.76	7.06	20.0
193-39-5	Indeno(1,2,3-cd)pyrene		34.4	ug/kg	1.76	7.06	20.0
53-70-3	Dibenzo(a,h)anthracene	U	7.06	ug/kg	1.76	7.06	20.0
191-24-2	Benzo(ghi)perylene		31.3	ug/kg	1.76	7.06	20.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
5-alpha-Androstane	130	176	ug/kg	73.6	(28%-126%)

**Comments:**

J Value is estimated

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

# **HPLC Explosive Analysis**

**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

SDG Number: 240083  
Lab Sample ID: 240083001

Client: SSFL001  
Date Collected: 10/29/2009 14:50  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Water

Client ID: EBQW2251RA  
Batch ID: 917648  
Run Date: 11/04/2009 21:26  
Data File: ex3k0415.d  
Prep Batch: 917647  
Prep Date: 11/02/2009 11:53

Method: SW846 3535/8330  
Analyst: CWW  
Inj. Vol: 100 uL  
Prep Method: SW846 Method 3535  
Aliquot: 770 mL

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCC.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
2691-41-0	HMX	U	0.487	ug/L	0.162	0.487	0.500
121-82-4	RDX	U	0.487	ug/L	0.162	0.487	0.500
479-45-8	Tetryl	U	1.46	ug/L	0.487	1.46	1.5
118-96-7	2,4,6-Trinitrotoluene	U	0.487	ug/L	0.162	0.487	0.500
19406-51-0	4-Amino-2,6-dinitrotoluene	U	0.487	ug/L	0.162	0.487	0.500
35572-78-2	2-Amino-4,6-dinitrotoluene	U	0.487	ug/L	0.162	0.487	0.500
88-72-2	o-Nitrotoluene	U	0.487	ug/L	0.162	0.487	0.500
99-99-0	p-Nitrotoluene	U	0.487	ug/L	0.162	0.487	0.500
99-08-1	m-Nitrotoluene	U	0.325	ug/L	0.126	0.325	0.500
78-11-5	PETN	U	1.95	ug/L	0.649	1.95	2.00
121-14-2	2,4-Dinitrotoluene	U	0.487	ug/L	0.162	0.487	0.500
98-95-3	Nitrobenzene	U	0.325	ug/L	0.0649	0.325	0.500
606-20-2	2,6-Dinitrotoluene	U	0.487	ug/L	0.162	0.487	0.500
99-65-0	m-Dinitrobenzene	U	0.325	ug/L	0.0649	0.325	0.500
99-35-4	1,3,5-Trinitrobenzene	U	0.325	ug/L	0.0649	0.325	0.500

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	3.35	3.25	ug/L	103	(70%-130%)

**Comments:**

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

**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

SDG Number: 240083  
Lab Sample ID: 240083001

Client: SSFL001  
Date Collected: 10/29/2009 14:50  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Water

Client ID: EBQW2251  
Batch ID: 917648  
Run Date: 11/03/2009 19:30  
Data File: ex6k0310.d  
Prep Batch: 917647  
Prep Date: 11/02/2009 11:53

Method: SW846 3535/8330  
Analyst: CWW  
Inj. Vol: 100 uL  
Prep Method: SW846 Method 3535  
Aliquot: 770 mL

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCF.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 5 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
55-63-0	Nitroglycerin	U	1.95	ug/L	0.649	1.95	2.00

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	3.02	3.25	ug/L	93.1	(70%-130%)

**Comments:**

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

**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

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SDG Number: 240083  
Lab Sample ID: 240083002

Client: SSFL001  
Date Collected: 10/29/2009 10:50  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 7.8

Client ID: HZET0728S001  
Batch ID: 917653  
Run Date: 11/05/2009 00:43  
Data File: ex3k0420.d  
Prep Batch: 917652  
Prep Date: 11/03/2009 16:13

Method: SW846 8330  
Analyst: CWW  
Inj. Vol: 100 uL  
Prep Method: SW846 8330 PREP  
Aliquot: 2 g

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCC.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 10 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
2691-41-0	HMX	U	150	ug/Kg	50.0	150	250
121-82-4	RDX	U	150	ug/Kg	50.0	150	250
479-45-8	Tetryl	U	150	ug/Kg	50.0	150	500
118-96-7	2,4,6-Trinitrotoluene	U	150	ug/Kg	50.0	150	250
19406-51-0	4-Amino-2,6-dinitrotoluene	U	150	ug/Kg	50.0	150	250
35572-78-2	2-Amino-4,6-dinitrotoluene	U	150	ug/Kg	50.0	150	250
88-72-2	o-Nitrotoluene	U	150	ug/Kg	50.0	150	250
99-99-0	p-Nitrotoluene	U	150	ug/Kg	50.0	150	400
99-08-1	m-Nitrotoluene	U	150	ug/Kg	50.0	150	250
78-11-5	PETN	U	500	ug/Kg	82.5	500	4000
121-14-2	2,4-Dinitrotoluene	U	150	ug/Kg	50.0	150	250
98-95-3	Nitrobenzene	U	150	ug/Kg	50.0	150	250
606-20-2	2,6-Dinitrotoluene	U	150	ug/Kg	50.0	150	250
99-65-0	m-Dinitrobenzene	U	150	ug/Kg	50.0	150	250
99-35-4	1,3,5-Trinitrobenzene	U	150	ug/Kg	50.0	150	250

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	2790	2500	ug/Kg	112	(79%-128%)

**Comments:**

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

**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

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SDG Number: 240083  
Lab Sample ID: 240083002

Client: SSFL001  
Date Collected: 10/29/2009 10:50  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 7.8

Client ID: HZET0728S001RA  
Batch ID: 917653  
Run Date: 11/05/2009 19:08  
Data File: ex6k0505.d  
Prep Batch: 917652  
Prep Date: 11/03/2009 16:13

Method: SW846 8330  
Analyst: CWW  
Inj. Vol: 100 uL  
Prep Method: SW846 8330 PREP  
Aliquot: 2 g

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCF.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 10 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
55-63-0	Nitroglycerin	U	1000	ug/Kg	250	1000	5000

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	2690	2500	ug/Kg	108	(79%-128%)

**Comments:**

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



**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

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SDG Number: 240083  
Lab Sample ID: 240083003

Client: SSFL001  
Date Collected: 10/29/2009 11:05  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 1.5

Client ID: HZET0729S001RA  
Batch ID: 917653  
Run Date: 11/05/2009 02:41  
Data File: ex3k0423.d  
Prep Batch: 917652  
Prep Date: 11/03/2009 16:13

Method: SW846 8330  
Analyst: CWW  
Inj. Vol: 100 uL  
Prep Method: SW846 8330 PREP  
Aliquot: 2 g

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCC.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 10 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
2691-41-0	HMX	U	150	ug/Kg	50.0	150	250
121-82-4	RDX	U	150	ug/Kg	50.0	150	250
479-45-8	Tetryl	U	150	ug/Kg	50.0	150	500
118-96-7	2,4,6-Trinitrotoluene	U	150	ug/Kg	50.0	150	250
19406-51-0	4-Amino-2,6-dinitrotoluene	U	150	ug/Kg	50.0	150	250
35572-78-2	2-Amino-4,6-dinitrotoluene	U	150	ug/Kg	50.0	150	250
88-72-2	o-Nitrotoluene	U	150	ug/Kg	50.0	150	250
99-99-0	p-Nitrotoluene	U	150	ug/Kg	50.0	150	400
99-08-1	m-Nitrotoluene	U	150	ug/Kg	50.0	150	250
78-11-5	PETN	U	500	ug/Kg	82.5	500	4000
121-14-2	2,4-Dinitrotoluene	U	150	ug/Kg	50.0	150	250
98-95-3	Nitrobenzene	U	150	ug/Kg	50.0	150	250
606-20-2	2,6-Dinitrotoluene	U	150	ug/Kg	50.0	150	250
99-65-0	m-Dinitrobenzene	U	150	ug/Kg	50.0	150	250
99-35-4	1,3,5-Trinitrobenzene	U	150	ug/Kg	50.0	150	250

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	2870	2500	ug/Kg	115	(79%-128%)

**Comments:**

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

**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

SDG Number: 240083  
Lab Sample ID: 240083003

Client: SSFL001  
Date Collected: 10/29/2009 11:05  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 1.5

Client ID: HZET0729S001  
Batch ID: 917653  
Run Date: 11/04/2009 20:10  
Data File: ex6k0414.d  
Prep Batch: 917652  
Prep Date: 11/03/2009 16:13

Method: SW846 8330  
Analyst: CWW  
Inj. Vol: 100 uL  
Prep Method: SW846 8330 PREP  
Aliquot: 2 g

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCF.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 10 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
55-63-0	Nitroglycerin	U	1000	ug/Kg	250	1000	5000

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	2590	2500	ug/Kg	103	(79%-128%)

**Comments:**

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

**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

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SDG Number: 240083  
Lab Sample ID: 240083004

Client: SSFL001  
Date Collected: 10/29/2009 11:25  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 11.1

Client ID: HZET0730S001RA  
Batch ID: 917653  
Run Date: 11/05/2009 03:21  
Data File: ex3k0424.d  
Prep Batch: 917652  
Prep Date: 11/03/2009 16:13

Method: SW846 8330  
Analyst: CWW  
Inj. Vol: 100 µL  
Prep Method: SW846 8330 PREP  
Aliquot: 2 g

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCC.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 10 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
2691-41-0	HMX	U	150	ug/Kg	50.0	150	250
121-82-4	RDX	U	150	ug/Kg	50.0	150	250
479-45-8	Tetryl	U	150	ug/Kg	50.0	150	500
118-96-7	2,4,6-Trinitrotoluene	U	150	ug/Kg	50.0	150	250
19406-51-0	4-Amino-2,6-dinitrotoluene	U	150	ug/Kg	50.0	150	250
35572-78-2	2-Amino-4,6-dinitrotoluene	U	150	ug/Kg	50.0	150	250
88-72-2	o-Nitrotoluene	U	150	ug/Kg	50.0	150	250
99-99-0	p-Nitrotoluene	U	150	ug/Kg	50.0	150	400
99-08-1	m-Nitrotoluene	U	150	ug/Kg	50.0	150	250
78-11-5	PETN	U	500	ug/Kg	82.5	500	4000
121-14-2	2,4-Dinitrotoluene	U	150	ug/Kg	50.0	150	250
98-95-3	Nitrobenzene	U	150	ug/Kg	50.0	150	250
606-20-2	2,6-Dinitrotoluene	U	150	ug/Kg	50.0	150	250
99-65-0	m-Dinitrobenzene	U	150	ug/Kg	50.0	150	250
99-35-4	1,3,5-Trinitrobenzene	U	150	ug/Kg	50.0	150	250

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	2790	2500	ug/Kg	112	(79%-128%)

**Comments:**

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

**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

SDG Number: 240083  
Lab Sample ID: 240083004

Client: SSFL001  
Date Collected: 10/29/2009 11:25  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 11.1

Client ID: HZET0730S001  
Batch ID: 917653  
Run Date: 11/04/2009 20:48  
Data File: ex6k0415.d  
Prep Batch: 917652  
Prep Date: 11/03/2009 16:13

Method: SW846 8330  
Analyst: CWW  
Inj. Vol: 100 uL  
Prep Method: SW846 8330 PREP  
Aliquot: 2 g

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCF.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 10 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
55-63-0	Nitroglycerin	U	1000	ug/Kg	250	1000	5000

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	2600	2500	ug/Kg	104	(79%-128%)

**Comments:**

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

**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

SDG Number: 240083  
Lab Sample ID: 240083005

Client: SSFL001  
Date Collected: 10/29/2009 11:45  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 6

Client ID: HZET0731S001RA  
Batch ID: 917653  
Run Date: 11/05/2009 04:01  
Data File: ex3k0425.d  
Prep Batch: 917652  
Prep Date: 11/03/2009 16:13

Method: SW846 8330  
Analyst: CWW  
Inj. Vol: 100 µL  
Prep Method: SW846 8330 PREP  
Aliquot: 2 g

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCC.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 10 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
2691-41-0	HMX	U	150	ug/Kg	50.0	150	250
121-82-4	RDX	U	150	ug/Kg	50.0	150	250
479-45-8	Tetryl	U	150	ug/Kg	50.0	150	500
118-96-7	2,4,6-Trinitrotoluene	U	150	ug/Kg	50.0	150	250
19406-51-0	4-Amino-2,6-dinitrotoluene	U	150	ug/Kg	50.0	150	250
35572-78-2	2-Amino-4,6-dinitrotoluene	U	150	ug/Kg	50.0	150	250
88-72-2	o-Nitrotoluene	U	150	ug/Kg	50.0	150	250
99-99-0	p-Nitrotoluene	U	150	ug/Kg	50.0	150	400
99-08-1	m-Nitrotoluene	U	150	ug/Kg	50.0	150	250
78-11-5	PETN	U	500	ug/Kg	82.5	500	4000
121-14-2	2,4-Dinitrotoluene	U	150	ug/Kg	50.0	150	250
98-95-3	Nitrobenzene	U	150	ug/Kg	50.0	150	250
606-20-2	2,6-Dinitrotoluene	U	150	ug/Kg	50.0	150	250
99-65-0	m-Dinitrobenzene	U	150	ug/Kg	50.0	150	250
99-35-4	1,3,5-Trinitrobenzene	U	150	ug/Kg	50.0	150	250

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	2810	2500	ug/Kg	113	(79%-128%)

**Comments:**

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

**Explosives by HPLC  
Certificate of Analysis  
Sample Summary**

SDG Number: 240083  
Lab Sample ID: 240083005

Client: SSFL001  
Date Collected: 10/29/2009 11:45  
Date Received: 10/30/2009 09:15

Project: SSFL00160  
Matrix: Soil  
%Moisture: 6

Client ID: HZET0731S001  
Batch ID: 917653  
Run Date: 11/04/2009 21:27  
Data File: ex6k0416.d  
Prep Batch: 917652  
Prep Date: 11/03/2009 16:13

Method: SW846 8330  
Analyst: CWW  
Inj. Vol: 100 uL  
Prep Method: SW846 8330 PREP  
Aliquot: 2 g

Prep Basis: As Received  
SOP Ref: GL-OA-E-033  
Instrument: HPLCF.I  
Dilution: 2  
Prep SOP Ref: GL-OA-E-033  
Final Volume: 10 mL

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL
55-63-0	Nitroglycerin	U	1000	ug/Kg	250	1000	5000

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
3,4-Dinitrotoluene	2650	2500	ug/Kg	106	(79%-128%)

**Comments:**

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

LC/MS/MS  
EXPLOSIVES  
ANALYSIS

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: EBQW2251

Lab Code: GEL

GEL Job No (SDG) 240083

Matrix: WATER

GEL Sample ID: 240083001

Sample Amount 770

Moisture:

Amount Units mL

Date Received: 30-OCT-09

Extraction Type Sol Exchange

Extraction Batch ID: 917640

Concentrated Extract Volume (mL) 5

Date Extracted: 02-NOV-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS11030027.wiff

Date Analyzed: 03-NOV-09 18:10

Units: ug/L

Cas No.	Compound	Concentration*	Q
59229-75-3	2,6-Diamino-4-nitrotoluene	1.3	U
6629-29-4	2,4-Diamino-6-nitrotoluene	1.3	U

*Concentration =			
Instrument Value	X	$\frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}}$	X Dilution Factor



1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: HZET0728S001

Lab Code: GEL

GEL Job No (SDG) 240083

Matrix: SOIL

GEL Sample ID: 240083002

Sample Amount 2

Moisture: 7.8

Amount Units g

Date Received: 30-OCT-09

Extraction Type Sonication

Extraction Batch ID: 917645

Concentrated Extract Volume (mL) 10

Date Extracted: 03-NOV-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS11040016.wiff

Date Analyzed: 04-NOV-09 15:57

Units: ug/Kg

Cas No.	Compound	Concentration*	Q
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U

\*Concentration =

Instrument Value	X	<u>Concentrated Extract Volume</u> Sample Amoun	X	Dilution Factor
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1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: HZET0729S001

Lab Code: GEL

GEL Job No (SDG) 240083

Matrix: SOIL

GEL Sample ID: 240083003

Sample Amount 2

Moisture: 1.5

Amount Units g

Date Received: 30-OCT-09

Extraction Type Sonication

Extraction Batch ID: 917645

Concentrated Extract Volume (mL) 10

Date Extracted: 03-NOV-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS11040019.wiff

Date Analyzed: 04-NOV-09 16:44

Units: ug/Kg

Cas No.	Compound	Concentration*	Q
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U

\*Concentration =

Instrument Value	X	$\frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}}$	X	Dilution Factor
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1  
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: HZET0730S001

Lab Code: GEL

GEL Job No (SDG) 240083

Matrix: SOIL

GEL Sample ID: 240083004

Sample Amount 2

Moisture: 11.1

Amount Units g

Date Received: 30-OCT-09

Extraction Type Sonication

Extraction Batch ID: 917645

Concentrated Extract Volume (mL) 10

Date Extracted: 03-NOV-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS11040020.wiff

Date Analyzed: 04-NOV-09 17:00

Units: ug/Kg

Cas No.	Compound	Concentration*	Q
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U

\*Concentration =

Instrument Value	X	Concentrated Extract Volume	X	Dilution Factor
		Sample Amoun		

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: HZET0731S001

Lab Code: GEL

GEL Job No (SDG) 240083

Matrix: SOIL

GEL Sample ID: 240083005

Sample Amount 2

Moisture: 6.0

Amount Units g

Date Received: 30-OCT-09

Extraction Type Sonication

Extraction Batch ID: 917645

Concentrated Extract Volume (mL) 10

Date Extracted: 03-NOV-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS11050014.wiff

Date Analyzed: 05-NOV-09 14:34

Units: ug/Kg

Cas No.	Compound	Concentration*	Q
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U

\*Concentration =

Instrument Value	X	Concentrated Extract Volume	X	Dilution Factor
		Sample Amoun		

# Metals Analysis

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 240083

CONTRACT: SSFL00160

METHOD TYPE: SW846

SAMPLE ID: 240083001

BASIS: As Received

DATE COLLECTED 29-OCT-09

CLIENT ID: EBQW2251

LEVEL: Low

DATE RECEIVED 30-OCT-09

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	68	ug/L	U	68	200	200	1	P	HSC	11/03/09 13:59	110309-1	917605
7440-36-0	Antimony	3	ug/L	U	3	10	10	1	P	HSC	11/03/09 13:59	110309-1	917605
7440-38-2	Arsenic	1.6	ug/L	U	1.6	5	5	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-39-3	Barium	0.60	ug/L	U	0.6	2	2	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-41-7	Beryllium	0.10	ug/L	U	0.1	0.5	0.5	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-42-8	Boron	15	ug/L	U	15	50	50	1	P	HSC	11/03/09 13:59	110309-1	917605
7440-43-9	Cadmium	0.110	ug/L	U	0.11	1	1	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-47-3	Chromium	2	ug/L	U	2	10	3	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-48-4	Cobalt	0.10	ug/L	U	0.1	1	1	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-50-8	Copper	0.330	ug/L	U	0.33	1	1	1	MS	PRB	11/05/09 02:43	091104-3	917608
7439-92-1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	PRB	11/05/09 07:07	091104-4	917608
7439-97-6	Mercury	0.066	ug/L	U	0.066	0.2	0.2	1	AV	JXL1	11/03/09 13:25	110309W1-5	917954
7439-98-7	Molybdenum	0.167	ug/L	U	0.167	0.5	0.5	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-02-0	Nickel	1.9	ug/L	J	0.5	2	2	1	MS	PRB	11/05/09 02:43	091104-3	917608
7782-49-2	Selenium	1	ug/L	U	1	5	5	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-22-4	Silver	0.20	ug/L	U	0.2	1	1	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-28-0	Thallium	0.688	ug/L	J	0.3	1	1	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-62-2	Vanadium	3	ug/L	U	3	10	10	1	MS	PRB	11/05/09 02:43	091104-3	917608
7440-66-6	Zinc	3	ug/L	U	3	10	10	1	MS	PRB	11/05/09 02:43	091104-3	917608

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
917605	917604	SW846 3005A	50	mL	50	mL	11/02/09	AXG2
917608	917607	SW846 3005A	50	mL	50	mL	11/02/09	AXG2
917954	917952	SW846 7470A Prep	20	mL	20	mL	11/02/09	TXB3

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 240083

CONTRACT: SSFL00160

METHOD TYPE: SW846

SAMPLE ID: 240083002

BASIS: Dry Weight

DATE COLLECTED 29-OCT-09

CLIENT ID: HZET0728S001

LEVEL: Low

DATE RECEIVED 30-OCT-09

MATRIX: SOIL

%SOLIDS: 92.2

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	9210	mg/kg		7.22	21.2	10	1	P	HSC	11/02/09 19:15	110209-2	917612
7440-36-0	Antimony	0.713	mg/kg	J	0.35	1.06	1	1	P	HSC	11/02/09 19:15	110209-2	917612
7440-38-2	Arsenic	3.38	mg/kg		0.209	1.05	0.5	2	MS	PRB	11/05/09 03:20	091104-3	917615
7440-39-3	Barium	90	mg/kg		0.524	2.09	0.5	10	MS	PRB	11/05/09 04:21	091104-3	917615
7440-41-7	Beryllium	0.272	mg/kg	J	0.105	0.524	0.3	10	MS	PRB	11/05/09 04:21	091104-3	917615
7440-42-8	Boron	1.71	mg/kg	J	1.06	5.31	5	1	P	HSC	11/02/09 19:15	110209-2	917612
7440-43-9	Cadmium	0.282	mg/kg		0.0209	0.209	0.2	2	MS	PRB	11/05/09 03:20	091104-3	917615
7440-47-3	Chromium	12.4	mg/kg	N	1.05	3.14	1	10	MS	PRB	11/05/09 04:21	091104-3	917615
7440-48-4	Cobalt	5.2	mg/kg		0.314	1.05	0.5	10	MS	PRB	11/05/09 04:21	091104-3	917615
7440-50-8	Copper	11.3	mg/kg	N	0.346	1.05	0.2	10	MS	PRB	11/05/09 04:21	091104-3	917615
7439-92-1	Lead	9.83	mg/kg	N	0.105	0.419	0.4	2	MS	PRB	11/05/09 07:44	091104-4	917615
7439-97-6	Mercury	0.0219	mg/kg	*	0.00435	0.0128	0.01	1	AV	JXL1	11/04/09 12:18	110409S1-6	918275
7439-98-7	Molybdenum	0.376	mg/kg		0.0628	0.209	0.1	2	MS	PRB	11/05/09 03:20	091104-3	917615
7440-02-0	Nickel	8.99	mg/kg	*N	0.524	2.09	0.4	10	MS	PRB	11/05/09 04:21	091104-3	917615
7782-49-2	Selenium	0.524	mg/kg	U	0.524	1.05	1	2	MS	PRB	11/05/09 03:20	091104-3	917615
7440-22-4	Silver	0.0568	mg/kg	J	0.0419	0.209	0.2	2	MS	PRB	11/05/09 03:20	091104-3	917615
7440-28-0	Thallium	0.296	mg/kg		0.0628	0.209	0.2	2	MS	PRB	11/05/09 03:20	091104-3	917615
7440-62-2	Vanadium	23.5	mg/kg		2.09	10.5	1	10	MS	PRB	11/05/09 04:21	091104-3	917615
7440-66-6	Zinc	61.1	mg/kg		2.09	10.5	5	10	MS	PRB	11/05/09 04:21	091104-3	917615

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
917612	917611	SW846 3050B	0.511	g	50	mL	11/02/09	AXG2
917615	917614	SW846 3050B	0.518	g	50	mL	11/02/09	AXG2
918275	918274	SW846 7471A Prep	0.509	g	30	mL	11/03/09	TXB3

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 240083

CONTRACT: SSFL00160

METHOD TYPE: SW846

SAMPLE ID: 240083003

BASIS: Dry Weight

DATE COLLECTED 29-OCT-09

CLIENT ID: HZET0729S001

LEVEL: Low

DATE RECEIVED 30-OCT-09

MATRIX: SOIL

%SOLIDS: 98.5

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	7820	mg/kg		6.77	19.9	10	1	P	HSC	11/02/09 19:49	110209-2	917612
7440-36-0	Antimony	0.328	mg/kg	U	0.328	0.995	1	1	P	HSC	11/02/09 19:49	110209-2	917612
7440-38-2	Arsenic	2.8	mg/kg		0.198	0.991	0.5	2	MS	PRB	11/05/09 03:51	091104-3	917615
7440-39-3	Barium	103	mg/kg		0.991	3.97	0.5	20	MS	PRB	11/05/09 09:47	091104-4	917615
7440-41-7	Beryllium	0.265	mg/kg	J	0.0991	0.496	0.3	10	MS	PRB	11/05/09 04:52	091104-3	917615
7440-42-8	Boron	1.95	mg/kg	J	0.995	4.98	5	1	P	HSC	11/02/09 19:49	110209-2	917612
7440-43-9	Cadmium	0.719	mg/kg		0.0198	0.198	0.2	2	MS	PRB	11/05/09 03:51	091104-3	917615
7440-47-3	Chromium	11.3	mg/kg	N	0.991	2.97	1	10	MS	PRB	11/05/09 04:52	091104-3	917615
7440-48-4	Cobalt	5.28	mg/kg		0.297	0.991	0.5	10	MS	PRB	11/05/09 04:52	091104-3	917615
7440-50-8	Copper	12.6	mg/kg	N	0.327	0.991	0.2	10	MS	PRB	11/05/09 04:52	091104-3	917615
7439-92-1	Lead	8.64	mg/kg	N	0.0991	0.397	0.4	2	MS	PRB	11/05/09 08:15	091104-4	917615
7439-97-6	Mercury	0.0119	mg/kg	J*	0.00414	0.0122	0.01	1	AV	JXL1	11/04/09 12:28	110409S1-6	918275
7439-98-7	Molybdenum	0.267	mg/kg		0.0595	0.198	0.1	2	MS	PRB	11/05/09 03:51	091104-3	917615
7440-02-0	Nickel	8.09	mg/kg	*N	0.496	1.98	0.4	10	MS	PRB	11/05/09 04:52	091104-3	917615
7782-49-2	Selenium	0.496	mg/kg	U	0.496	0.991	1	2	MS	PRB	11/05/09 03:51	091104-3	917615
7440-22-4	Silver	0.0533	mg/kg	J	0.0397	0.198	0.2	2	MS	PRB	11/05/09 03:51	091104-3	917615
7440-28-0	Thallium	0.271	mg/kg		0.0595	0.198	0.2	2	MS	PRB	11/05/09 03:51	091104-3	917615
7440-62-2	Vanadium	25.4	mg/kg		1.98	9.91	1	10	MS	PRB	11/05/09 04:52	091104-3	917615
7440-66-6	Zinc	143	mg/kg		3.97	19.8	5	20	MS	PRB	11/05/09 09:47	091104-4	917615

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
917612	917611	SW846 3050B	0.51	g	50	mL	11/02/09	AXG2
917615	917614	SW846 3050B	0.512	g	50	mL	11/02/09	AXG2
918275	918274	SW846 7471A Prep	0.5	g	30	mL	11/03/09	TXB3



**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 240083

CONTRACT: SSFL00160

METHOD TYPE: SW846

SAMPLE ID: 240083004

BASIS: Dry Weight

DATE COLLECTED 29-OCT-09

CLIENT ID: HZET0730S001

LEVEL: Low

DATE RECEIVED 30-OCT-09

MATRIX: SOIL

%SOLIDS: 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	8330	mg/kg		7.48	22	10	1	P	HSC	11/02/09 19:56	110209-2	917612
7440-36-0	Antimony	0.363	mg/kg	U	0.363	1.1	1	1	P	HSC	11/02/09 19:56	110209-2	917612
7440-38-2	Arsenic	3.05	mg/kg		0.217	1.08	0.5	2	MS	PRB	11/05/09 03:57	091104-3	917615
7440-39-3	Barium	54.3	mg/kg		0.542	2.17	0.5	10	MS	PRB	11/05/09 04:59	091104-3	917615
7440-41-7	Beryllium	0.326	mg/kg	J	0.108	0.542	0.3	10	MS	PRB	11/05/09 04:59	091104-3	917615
7440-42-8	Boron	1.1	mg/kg	U	1.1	5.5	5	1	P	HSC	11/02/09 19:56	110209-2	917612
7440-43-9	Cadmium	0.119	mg/kg	J	0.0217	0.217	0.2	2	MS	PRB	11/05/09 03:57	091104-3	917615
7440-47-3	Chromium	12.6	mg/kg	N	1.08	3.25	1	10	MS	PRB	11/05/09 04:59	091104-3	917615
7440-48-4	Cobalt	3.81	mg/kg		0.325	1.08	0.5	10	MS	PRB	11/05/09 04:59	091104-3	917615
7440-50-8	Copper	6.13	mg/kg	N	0.358	1.08	0.2	10	MS	PRB	11/05/09 04:59	091104-3	917615
7439-92-1	Lead	3.84	mg/kg	N	0.108	0.433	0.4	2	MS	PRB	11/05/09 08:21	091104-4	917615
7439-97-6	Mercury	0.0041	mg/kg	U*	0.0041	0.0121	0.01	1	AV	JXL1	11/04/09 12:30	110409S1-6	918275
7439-98-7	Molybdenum	0.110	mg/kg	J	0.065	0.217	0.1	2	MS	PRB	11/05/09 03:57	091104-3	917615
7440-02-0	Nickel	6.65	mg/kg	*N	0.542	2.17	0.4	10	MS	PRB	11/05/09 04:59	091104-3	917615
7782-49-2	Selenium	0.542	mg/kg	U	0.542	1.08	1	2	MS	PRB	11/05/09 03:57	091104-3	917615
7440-22-4	Silver	0.0433	mg/kg	U	0.0433	0.217	0.2	2	MS	PRB	11/05/09 03:57	091104-3	917615
7440-28-0	Thallium	0.216	mg/kg	J	0.065	0.217	0.2	2	MS	PRB	11/05/09 03:57	091104-3	917615
7440-62-2	Vanadium	21.4	mg/kg		2.17	10.8	1	10	MS	PRB	11/05/09 04:59	091104-3	917615
7440-66-6	Zinc	46	mg/kg		2.17	10.8	5	10	MS	PRB	11/05/09 04:59	091104-3	917615

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
917612	917611	SW846 3050B	0.511	g	50	mL	11/02/09	AXG2
917615	917614	SW846 3050B	0.519	g	50	mL	11/02/09	AXG2
918275	918274	SW846 7471A Prep	0.56	g	30	mL	11/03/09	TXB3

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: 240083

CONTRACT: SSFL00160

METHOD TYPE: SW846

SAMPLE ID: 240083005

BASIS: Dry Weight

DATE COLLECTED 29-OCT-09

CLIENT ID: HZET0731S001

LEVEL: Low

DATE RECEIVED 30-OCT-09

MATRIX: SOIL

%SOLIDS: 94

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	7410	mg/kg		6.89	20.3	10	1	P	HSC	11/02/09 20:03	110209-2	917612
7440-36-0	Antimony	0.335	mg/kg	U	0.335	1.01	1	1	P	HSC	11/02/09 20:03	110209-2	917612
7440-38-2	Arsenic	3.12	mg/kg		0.209	1.04	0.5	2	MS	PRB	11/05/09 04:03	091104-3	917615
7440-39-3	Barium	54.2	mg/kg		0.522	2.09	0.5	10	MS	PRB	11/05/09 05:05	091104-3	917615
7440-41-7	Beryllium	0.323	mg/kg	J	0.104	0.522	0.3	10	MS	PRB	11/05/09 05:05	091104-3	917615
7440-42-8	Boron	1.01	mg/kg	U	1.01	5.07	5	1	P	HSC	11/02/09 20:03	110209-2	917612
7440-43-9	Cadmium	0.150	mg/kg	J	0.0209	0.209	0.2	2	MS	PRB	11/05/09 04:03	091104-3	917615
7440-47-3	Chromium	12.2	mg/kg	N	1.04	3.13	1	10	MS	PRB	11/05/09 05:05	091104-3	917615
7440-48-4	Cobalt	3.73	mg/kg		0.313	1.04	0.5	10	MS	PRB	11/05/09 05:05	091104-3	917615
7440-50-8	Copper	6.74	mg/kg	N	0.344	1.04	0.2	10	MS	PRB	11/05/09 05:05	091104-3	917615
7439-92-1	Lead	6.32	mg/kg	N	0.104	0.417	0.4	2	MS	PRB	11/05/09 08:27	091104-4	917615
7439-97-6	Mercury	0.0248	mg/kg	*	0.00378	0.0111	0.01	1	AV	JXL1	11/04/09 12:31	110409S1-6	918275
7439-98-7	Molybdenum	0.219	mg/kg		0.0626	0.209	0.1	2	MS	PRB	11/05/09 04:03	091104-3	917615
7440-02-0	Nickel	6.42	mg/kg	*N	0.522	2.09	0.4	10	MS	PRB	11/05/09 05:05	091104-3	917615
7782-49-2	Selenium	0.522	mg/kg	U	0.522	1.04	1	2	MS	PRB	11/05/09 04:03	091104-3	917615
7440-22-4	Silver	0.0417	mg/kg	U	0.0417	0.209	0.2	2	MS	PRB	11/05/09 04:03	091104-3	917615
7440-28-0	Thallium	0.230	mg/kg		0.0626	0.209	0.2	2	MS	PRB	11/05/09 04:03	091104-3	917615
7440-62-2	Vanadium	20.8	mg/kg		2.09	10.4	1	10	MS	PRB	11/05/09 05:05	091104-3	917615
7440-66-6	Zinc	49.7	mg/kg		2.09	10.4	5	10	MS	PRB	11/05/09 05:05	091104-3	917615

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
917612	917611	SW846 3050B	0.525	g	50	mL	11/02/09	AXG2
917615	917614	SW846 3050B	0.51	g	50	mL	11/02/09	AXG2
918275	918274	SW846 7471A Prep	0.575	g	30	mL	11/03/09	TXB3

# **General Chemistry**

## **Analysis**

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
#10-D  
Westminster, Colorado 80031  
Contact: Ms. Elizabeth Wessling  
Project: **ISRA Sampling, August 2009**

Report Date: November 11, 2009

Client Sample ID: EBQW2251  
Sample ID: 240083001  
Matrix: Water  
Collect Date: 29-OCT-09 14:50  
Receive Date: 30-OCT-09  
Collector: Client  
Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Ion Chromatography Federal</b>										
<i>EPA 314.0 Perchlorate by IC "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR11/09/09	1911	918768	1

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 314.0	

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Westminster, Colorado 80031  
Contact: Ms. Elizabeth Wessling  
Project: **ISRA Sampling, August 2009**

Report Date: November 11, 2009

Client Sample ID: HZET0728S001  
Sample ID: 240083002  
Matrix: Soil  
Collect Date: 29-OCT-09 10:50  
Receive Date: 30-OCT-09  
Collector: Client  
Moisture: 7.85%

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Electrode Analysis Federal</b>										
<i>SW9045C pH Federal "As Received"</i>										
pH at Temp 19.8C E-10139	H	5.54	0.010	0.100	SU	1	LXA1 11/02/09	1140	917860	1
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR1 11/09/09	2046	918767	2

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	EPA 314.0	

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Westminster, Colorado 80031  
Contact: Ms. Elizabeth Wessling  
Project: **ISRA Sampling, August 2009**

Report Date: November 11, 2009

Client Sample ID: HZET0729S001  
Sample ID: 240083003  
Matrix: Soil  
Collect Date: 29-OCT-09 11:05  
Receive Date: 30-OCT-09  
Collector: Client  
Moisture: 1.5%

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Electrode Analysis Federal</b>										
<i>SW9045C pH Federal "As Received"</i>										
pH at Temp 19.3C E-10139	H	6.05	0.010	0.100	SU	1	LXA1 11/02/09	1143	917860	1
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	10.0	40.0	ug/L	10	MAR1 11/10/09	1025	918767	2

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	EPA 314.0	

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## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
#10-D  
Westminster, Colorado 80031  
Contact: Ms. Elizabeth Wessling  
Project: **ISRA Sampling, August 2009**

Report Date: November 11, 2009

Client Sample ID: HZET0730S001  
Sample ID: 240083004  
Matrix: Soil  
Collect Date: 29-OCT-09 11:25  
Receive Date: 30-OCT-09  
Collector: Client  
Moisture: 11.1%

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Electrode Analysis Federal</b>										
<i>SW9045C pH Federal "As Received"</i>										
pH at Temp 19.0C E-10139	H	7.56	0.010	0.100	SU	1	LXA1 11/02/09	1145	917860	1
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR1 11/09/09	2201	918767	2

### **The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	EPA 314.0	

# GEL LABORATORIES LLC

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## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
#10-D  
Westminster, Colorado 80031  
Contact: Ms. Elizabeth Wessling  
Project: **ISRA Sampling, August 2009**

Report Date: November 11, 2009

Client Sample ID: HZET0731S001  
Sample ID: 240083005  
Matrix: Soil  
Collect Date: 29-OCT-09 11:45  
Receive Date: 30-OCT-09  
Collector: Client  
Moisture: 6.05%

Project: SSFL00160  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Electrode Analysis Federal</b>										
<i>SW9045C pH Federal "As Received"</i>										
pH at Temp 19.9C E-10139	H	6.25	0.010	0.100	SU	1	LXA1 11/02/09	1152	917860	1
<b>Ion Chromatography</b>										
<i>SSFL EPA 314.0 Perchlorate (DI WET) "As Received"</i>										
Perchlorate 14797730	U	0.00	1.00	4.00	ug/L	1	MAR1 11/10/09	1044	918767	2

### **The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	SW846 9045C/9045D	
2	EPA 314.0	



# **Subcontract Data**

## **Dioxins**

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122001	<b>Date Collected:</b> 10/29/2009 10:50	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 9.9
<b>Client ID:</b> HZET0728S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 11:14	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a-5		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 12.76 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	JK	0.160	pg/g	0.103	0.435
40321-76-4	1,2,3,7,8-PeCDD	J	0.231	pg/g	0.120	2.17
39227-28-6	1,2,3,4,7,8-HxCDD	JK	0.414	pg/g	0.263	2.17
57653-85-7	1,2,3,6,7,8-HxCDD		2.28	pg/g	0.294	2.17
19408-74-3	1,2,3,7,8,9-HxCDD	J	1.10	pg/g	0.292	2.17
35822-46-9	1,2,3,4,6,7,8-HpCDD		52.8	pg/g	0.437	2.17
3268-87-9	1,2,3,4,5,6,7,8-OCDD		573	pg/g	0.712	4.35
51207-31-9	2,3,7,8-TCDF	K	0.595	pg/g	0.204	0.435
57117-41-6	1,2,3,7,8-PeCDF	J	0.289	pg/g	0.162	2.17
57117-31-4	2,3,4,7,8-PeCDF	J	0.578	pg/g	0.153	2.17
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.499	pg/g	0.102	2.17
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.372	pg/g	0.107	2.17
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.475	pg/g	0.110	2.17
72918-21-9	1,2,3,7,8,9-HxCDF	JK	0.541	pg/g	0.139	2.17
67562-39-4	1,2,3,4,6,7,8-HpCDF		7.85	pg/g	0.122	2.17
55673-89-7	1,2,3,4,7,8,9-HpCDF	J	0.873	pg/g	0.200	2.17
39001-02-0	1,2,3,4,5,6,7,8-OCDF		32.8	pg/g	0.332	4.35
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs		0.619	pg/g	0.103	0.435
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs		3.31	pg/g	0.120	2.17
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs		15.1	pg/g	0.263	2.17
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs		313	pg/g	0.437	2.17
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		5.20	pg/g	0.204	0.435
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		10.2	pg/g	0.153	2.17
55684-94-1	Total Hexachlorodibenzofuran with EMPCs		13.5	pg/g	0.102	2.17
38998-75-3	Total Heptachlorodibenzofuran with EMPCs		42.7	pg/g	0.122	2.17
	TEQ WHO2005 ND=0 with EMPCs		2.00	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		2.00	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		157	174	pg/g	90	(25%-164%)
13C-1,2,3,7,8-PeCDD		154	174	pg/g	88	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		160	174	pg/g	92	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		149	174	pg/g	86	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		147	174	pg/g	84	(23%-140%)
13C-OCDD		303	348	pg/g	87	(17%-157%)
13C-2,3,7,8-TCDF		157	174	pg/g	90	(24%-169%)
13C-1,2,3,7,8-PeCDF		157	174	pg/g	91	(24%-185%)
13C-2,3,4,7,8-PeCDF		167	174	pg/g	96	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		152	174	pg/g	87	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		145	174	pg/g	83	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		152	174	pg/g	87	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		165	174	pg/g	95	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		153	174	pg/g	88	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 2 of 2

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122001	<b>Date Collected:</b> 10/29/2009 10:50	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 9.9
<b>Client ID:</b> HZET0728S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 11:14	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a-5		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 12.76 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			156	174	pg/g	90
37Cl-2,3,7,8-TCDD			15.4	17.4	pg/g	89

**Comments:****J** Value is estimated**K** Estimated Maximum Possible Concentration

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122001	<b>Date Collected:</b> 10/29/2009 10:50	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 9.9
<b>Client ID:</b> HZET0728S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 09:57	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b13nov09a-4		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 12.76 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF		0.543	pg/g	0.102	0.435

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122002	<b>Date Collected:</b> 10/29/2009 11:05	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 2.3
<b>Client ID:</b> HZET0729S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 12:02	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a-6		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 12.31 g	

CAS No.	Parname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0946	pg/g	0.0946	0.416
40321-76-4	1,2,3,7,8-PeCDD	U	.109	pg/g	0.109	2.08
39227-28-6	1,2,3,4,7,8-HxCDD	J	0.193	pg/g	0.153	2.08
57653-85-7	1,2,3,6,7,8-HxCDD	JK	0.536	pg/g	0.191	2.08
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.263	pg/g	0.180	2.08
35822-46-9	1,2,3,4,6,7,8-HpCDD		16.1	pg/g	0.266	2.08
3268-87-9	1,2,3,4,5,6,7,8-OCDD		212	pg/g	0.426	4.16
51207-31-9	2,3,7,8-TCDF	J	0.329	pg/g	0.158	0.416
57117-41-6	1,2,3,7,8-PeCDF	U	.081	pg/g	0.081	2.08
57117-31-4	2,3,4,7,8-PeCDF	JK	0.236	pg/g	0.090	2.08
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.196	pg/g	0.131	2.08
57117-44-9	1,2,3,6,7,8-HxCDF	JK	0.178	pg/g	0.144	2.08
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.200	pg/g	0.164	2.08
72918-21-9	1,2,3,7,8,9-HxCDF	J	0.140	pg/g	0.0893	2.08
67562-39-4	1,2,3,4,6,7,8-HpCDF		2.49	pg/g	0.0835	2.08
55673-89-7	1,2,3,4,7,8,9-HpCDF	J	0.220	pg/g	0.161	2.08
39001-02-0	1,2,3,4,5,6,7,8-OCDF		7.98	pg/g	0.261	4.16
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs		0.437	pg/g	0.0946	0.416
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	J	0.135	pg/g	0.109	2.08
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs		4.06	pg/g	0.153	2.08
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs		47.9	pg/g	0.266	2.08
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.910	pg/g	0.158	0.416
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		2.85	pg/g	0.081	2.08
55684-94-1	Total Hexachlorodibenzofuran with EMPCs		4.39	pg/g	0.0893	2.08
38998-75-3	Total Heptachlorodibenzofuran with EMPCs		6.73	pg/g	0.0835	2.08
	TEQ WHO2005 ND=0 with EMPCs		0.529	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.632	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		168	166	pg/g	101	(25%-164%)
13C-1,2,3,7,8-PeCDD		158	166	pg/g	95	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		178	166	pg/g	107	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		113	166	pg/g	68	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		140	166	pg/g	84	(23%-140%)
13C-OCDD		272	333	pg/g	82	(17%-157%)
13C-2,3,7,8-TCDF		152	166	pg/g	91	(24%-169%)
13C-1,2,3,7,8-PeCDF		169	166	pg/g	101	(24%-185%)
13C-2,3,4,7,8-PeCDF		171	166	pg/g	103	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		151	166	pg/g	91	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		137	166	pg/g	83	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		146	166	pg/g	88	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		183	166	pg/g	110	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		163	166	pg/g	98	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122002	<b>Date Collected:</b> 10/29/2009 11:05	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 2.3
<b>Client ID:</b> HZET0729S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 12:02	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a-6		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 12.31 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			153	166	pg/g	92
37Cl-2,3,7,8-TCDD			16.0	16.6	pg/g	96

**Comments:**

- J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122002	<b>Date Collected:</b> 10/29/2009 11:05	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 2.3
<b>Client ID:</b> HZET0729S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 10:19	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b13nov09a-5		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 12.31 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF		0.467	pg/g	0.113	0.416

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122003	<b>Date Collected:</b> 10/29/2009 11:25	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 7.4
<b>Client ID:</b> HZET0730S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 12:50	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a-7		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 11.46 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0926	pg/g	0.0926	0.471
40321-76-4	1,2,3,7,8-PeCDD	U	.102	pg/g	0.102	2.36
39227-28-6	1,2,3,4,7,8-HxCDD	U	.143	pg/g	0.143	2.36
57653-85-7	1,2,3,6,7,8-HxCDD	U	.163	pg/g	0.163	2.36
19408-74-3	1,2,3,7,8,9-HxCDD	U	.161	pg/g	0.161	2.36
35822-46-9	1,2,3,4,6,7,8-HpCDD		2.77	pg/g	0.215	2.36
3268-87-9	1,2,3,4,5,6,7,8-OCDD		31.5	pg/g	0.351	4.71
51207-31-9	2,3,7,8-TCDF	JK	0.322	pg/g	0.175	0.471
57117-41-6	1,2,3,7,8-PeCDF	J	0.109	pg/g	0.106	2.36
57117-31-4	2,3,4,7,8-PeCDF	J	0.254	pg/g	0.106	2.36
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.217	pg/g	0.0944	2.36
57117-44-9	1,2,3,6,7,8-HxCDF	JK	0.151	pg/g	0.0929	2.36
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.224	pg/g	0.101	2.36
72918-21-9	1,2,3,7,8,9-HxCDF	U	.0992	pg/g	0.0992	2.36
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	1.23	pg/g	0.106	2.36
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.194	pg/g	0.194	2.36
39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	0.890	pg/g	0.287	4.71
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	J	0.172	pg/g	0.0926	0.471
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.102	pg/g	0.102	2.36
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	0.584	pg/g	0.143	2.36
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs		8.23	pg/g	0.215	2.36
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		1.14	pg/g	0.175	0.471
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		2.52	pg/g	0.106	2.36
55684-94-1	Total Hexachlorodibenzofuran with EMPCs		2.61	pg/g	0.0929	2.36
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	J	1.92	pg/g	0.106	2.36
	TEQ WHO2005 ND=0 with EMPCs		0.221	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.347	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		171	189	pg/g	91	(25%-164%)
13C-1,2,3,7,8-PeCDD		170	189	pg/g	90	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		174	189	pg/g	92	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		153	189	pg/g	81	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		153	189	pg/g	81	(23%-140%)
13C-OCDD		294	377	pg/g	78	(17%-157%)
13C-2,3,7,8-TCDF		173	189	pg/g	92	(24%-169%)
13C-1,2,3,7,8-PeCDF		178	189	pg/g	94	(24%-185%)
13C-2,3,4,7,8-PeCDF		180	189	pg/g	95	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		161	189	pg/g	85	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		153	189	pg/g	81	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		163	189	pg/g	86	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		180	189	pg/g	96	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		165	189	pg/g	87	(28%-143%)



**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122003	<b>Date Collected:</b> 10/29/2009 11:25	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 7.4
<b>Client ID:</b> HZET0730S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 12:50	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a-7		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 11.46 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			163	189	pg/g	86 (26%-138%)
37Cl-2,3,7,8-TCDD			16.1	18.9	pg/g	85 (35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122003	<b>Date Collected:</b> 10/29/2009 11:25	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 7.4
<b>Client ID:</b> HZET0730S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 10:41	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b13nov09a-6		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 11.46 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.437	pg/g	0.171	0.471

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122004	<b>Date Collected:</b> 10/29/2009 11:45	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 5.4
<b>Client ID:</b> HZET0731S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 13:38	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 12.43 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.106	pg/g	0.106	0.425
40321-76-4	1,2,3,7,8-PeCDD	U	.126	pg/g	0.126	2.13
39227-28-6	1,2,3,4,7,8-HxCDD	U	.132	pg/g	0.132	2.13
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.385	pg/g	0.146	2.13
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.306	pg/g	0.146	2.13
35822-46-9	1,2,3,4,6,7,8-HpCDD		11.6	pg/g	0.274	2.13
3268-87-9	1,2,3,4,5,6,7,8-OCDD		161	pg/g	0.538	4.25
51207-31-9	2,3,7,8-TCDF	J	0.366	pg/g	0.165	0.425
57117-41-6	1,2,3,7,8-PeCDF	JK	0.170	pg/g	0.0776	2.13
57117-31-4	2,3,4,7,8-PeCDF	J	0.294	pg/g	0.0771	2.13
70648-26-9	1,2,3,4,7,8-HxCDF	JK	0.361	pg/g	0.119	2.13
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.252	pg/g	0.121	2.13
60851-34-5	2,3,4,6,7,8-HxCDF	JK	0.305	pg/g	0.123	2.13
72918-21-9	1,2,3,7,8,9-HxCDF	U	.157	pg/g	0.157	2.13
67562-39-4	1,2,3,4,6,7,8-HpCDF		2.92	pg/g	0.133	2.13
55673-89-7	1,2,3,4,7,8,9-HpCDF	JK	0.277	pg/g	0.228	2.13
39001-02-0	1,2,3,4,5,6,7,8-OCDF		7.16	pg/g	0.294	4.25
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	J	0.182	pg/g	0.106	0.425
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	J	0.490	pg/g	0.126	2.13
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs		2.92	pg/g	0.132	2.13
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs		35.1	pg/g	0.274	2.13
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.800	pg/g	0.165	0.425
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		3.69	pg/g	0.0771	2.13
55684-94-1	Total Hexachlorodibenzofuran with EMPCs		4.12	pg/g	0.119	2.13
38998-75-3	Total Heptachlorodibenzofuran with EMPCs		7.25	pg/g	0.133	2.13
	TEQ WHO2005 ND=0 with EMPCs		0.489	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.620	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		154	170	pg/g	90	(25%-164%)
13C-1,2,3,7,8-PeCDD		152	170	pg/g	90	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		154	170	pg/g	90	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		154	170	pg/g	91	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		143	170	pg/g	84	(23%-140%)
13C-OCDD		295	340	pg/g	87	(17%-157%)
13C-2,3,7,8-TCDF		163	170	pg/g	96	(24%-169%)
13C-1,2,3,7,8-PeCDF		154	170	pg/g	91	(24%-185%)
13C-2,3,4,7,8-PeCDF		161	170	pg/g	94	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		155	170	pg/g	91	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		144	170	pg/g	84	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		152	170	pg/g	90	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		162	170	pg/g	95	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		149	170	pg/g	88	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122004	<b>Date Collected:</b> 10/29/2009 11:45	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 5.4
<b>Client ID:</b> HZET0731S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 13:38	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 12.43 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			152	170	pg/g	89 (26%-138%)
37Cl-2,3,7,8-TCDD			14.5	17.0	pg/g	86 (35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240083	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1122004	<b>Date Collected:</b> 10/29/2009 11:45	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/10/2009 10:00	<b>%Moisture:</b> 5.4
<b>Client ID:</b> HZET0731S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3532	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 11:02	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b13nov09a-7		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3454	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 10-NOV-09	<b>Aliquot:</b> 12.43 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.379	pg/g	0.122	0.425

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.



Client: <u>GSFL</u>		SDG/ARCOC/Work Order: <u>240246/240254</u>	
Received By: <u>Ricky Albee</u>		Date Received: <u>11/3/09</u>	
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?		<input checked="" type="checkbox"/>	Maximum Counts Observed*: <u>40 cpm</u>
Classified Radioactive II or III by RSO?		<input checked="" type="checkbox"/>	
COC/Samples marked containing PCBs?		<input checked="" type="checkbox"/>	
Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	Hazard Class Shipped: _____ UN#: _____
Samples identified as Foreign Soil?		<input checked="" type="checkbox"/>	

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

Comments: FedEx 7960 8579 3766

# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MWH Americas, Inc.  
Address : 1340 Treat Blvd. Suite 300  
Walnut Creek, California 94597

Report Date: November 9, 2009

Contact: Ms. Sarah Von Raesfeld, MWH  
Project: **ISRA Sampling, August 2009– Outfall 008**

Client Sample ID: HZET0730AS001  
Sample ID: 240246001  
Matrix: Soil  
Collect Date: 02-NOV-09 12:46  
Receive Date: 03-NOV-09  
Collector: Client

Project: SSFL00158  
Client ID: SSFL001

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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### Rad Gamma Spec Analysis

*Gammascpec, Gamma, Solid "Dry Weight Corrected"*

Americium-241 14596-10-2	U	0.0293	+/-0.123	0.210		pCi/g						
Cesium-134 13967709	UI	0.00	+/-0.0578	0.0662		pCi/g						
Cesium-137 10045973	U	-0.013	+/-0.0246	0.0415	0.050	pCi/g						
Cobalt-60 10198400	U	0.00862	+/-0.0269	0.0466		pCi/g						
Europium-152 14683239	U	-0.0411	+/-0.0649	0.110		pCi/g						
Europium-154 15585101	U	-0.0515	+/-0.0881	0.143		pCi/g						
Manganese-54 13966319	U	0.0133	+/-0.0264	0.0461		pCi/g						
Potassium-40 13966002		25.8	+/-2.70	0.372		pCi/g						
Sodium-22 13966320	U	-0.0183	+/-0.0313	0.0507		pCi/g						
Thorium-228 14274829		1.63	+/-0.216	0.0687		pCi/g						
Thorium-232 7440291		1.52	+/-0.266	0.156		pCi/g						
Uranium-235 15117961	U	0.0091	+/-0.204	0.247		pCi/g						
Uranium-238 7440611	U	1.31	+/-1.48	1.62		pCi/g						

### Rad Gas Flow Proportional Counting

*GFPC, Sr90, solid "Dry Weight Corrected"*

Strontium-90 10098972	U	0.0243	+/-0.0263	0.0441	0.050	pCi/g						
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### Rad Liquid Scintillation Analysis

*LSC, Tritium Dist, Solid "As Received"*

Tritium 10028-17-8	U	0.213	+/-0.443	0.755	1.00	pCi/g						
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### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
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# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MWH Americas, Inc.  
Address : 1340 Treat Blvd. Suite 300  
Walnut Creek, California 94597

Report Date: November 9, 2009

Contact: Ms. Sarah Von Raesfeld, MWH  
Project: **ISRA Sampling, August 2009– Outfall 008**

Client Sample ID: HZET0730AS001  
Sample ID: 240246001  
Project: SSFL00158  
Client ID: SSFL001

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Dry Soil Prep	Dry Soil Prep	GL–RAD–A–021			CXC1	11/03/09	1838	918612				

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE HASL 300, 4.5.2.3/Ga-01-R	
2	EPA 905.0 Modified	
3	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, solid "Dry Weight Corrected"			49.3	(25%–125%)

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: November 9, 2009  
Page 1 of 4

MWH Americas, Inc.  
1340 Treat Blvd. Suite 300  
Walnut Creek, California

Contact: Ms. Sarah Von Raesfeld, MWH

Workorder: 240246

Paramname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>											
Batch	918674										
QC1201962546	240246001 DUP										
Americium-241	U	0.0293	U	-0.0303	pCi/g	12300			N/A MXR1	11/04/09	22:09
		+/-0.123		+/-0.131							
Cesium-134	UI	0.00	UI	0.00	pCi/g	24.9			N/A		
		+/-0.0578		+/-0.0408							
Cesium-137	U	-0.013	U	-0.0118	pCi/g	9.92			N/A		
		+/-0.0246		+/-0.0276							
Cobalt-60	U	0.00862	U	0.00998	pCi/g	14.6			N/A		
		+/-0.0269		+/-0.0243							
Europium-152	U	-0.0411	U	-0.0792	pCi/g	63.4			N/A		
		+/-0.0649		+/-0.0849							
Europium-154	U	-0.0515	U	0.0366	pCi/g	1180			N/A		
		+/-0.0881		+/-0.0822							
Manganese-54	U	0.0133	U	0.015	pCi/g	12.0			N/A		
		+/-0.0264		+/-0.0249							
Potassium-40		25.8		24.7	pCi/g	4.36		(0% - 20%)			
		+/-2.70		+/-1.93							
Sodium-22	U	-0.0183	U	0.0136	pCi/g	1340			N/A		
		+/-0.0313		+/-0.0292							
Thorium-228		1.63		1.56	pCi/g	4.45		(0% - 20%)			
		+/-0.216		+/-0.133							
Thorium-232		1.52		1.58	pCi/g	4.32		(0% - 20%)			
		+/-0.266		+/-0.239							
Uranium-235	U	0.0091	U	0.0749	pCi/g	157			N/A		
		+/-0.204		+/-0.141							
Uranium-238	U	1.31		1.76	pCi/g	29.5		(0% - 100%)			
		+/-1.48		+/-1.40							
QC1201962547	LCS										
Americium-241	15.9			13.1	pCi/g		82.5	(75%-125%)		11/04/09	16:37
				+/-1.09							
Cesium-134			U	0.0655	pCi/g						
				+/-0.0828							
Cesium-137	5.59			5.67	pCi/g		101	(75%-125%)			
				+/-0.462							
Cobalt-60	6.62			6.52	pCi/g		98.4	(75%-125%)			
				+/-0.524							
Europium-152			U	0.0978	pCi/g						
				+/-0.182							
Europium-154			U	-0.05	pCi/g						
				+/-0.122							
Manganese-54			U	-0.0118	pCi/g						

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 240246

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Gamma Spec</b>											
Batch	918674										
Potassium-40			U	0.480	pCi/g				MXR1	11/04/09	16:37
				+/-0.0694							
Sodium-22			U	-0.0171	pCi/g						
				+/-0.564							
Thorium-228				0.895	pCi/g						
				+/-0.0433							
Thorium-232				1.14	pCi/g						
				+/-0.168							
Uranium-235			U	-0.145	pCi/g						
				+/-0.534							
Uranium-238			U	-0.201	pCi/g						
				+/-0.303							
				+/-1.86							
QC1201962545	MB										
Americium-241			U	-0.0173	pCi/g					11/04/09	16:36
				+/-0.0327							
Cesium-134			U	0.0125	pCi/g						
				+/-0.015							
Cesium-137			U	0.0106	pCi/g						
				+/-0.0127							
Cobalt-60			U	-0.00781	pCi/g						
				+/-0.0139							
Europium-152			U	-0.0106	pCi/g						
				+/-0.034							
Europium-154			U	0.0224	pCi/g						
				+/-0.0361							
Manganese-54			U	0.00519	pCi/g						
				+/-0.0128							
Potassium-40			U	0.113	pCi/g						
				+/-0.184							
Sodium-22			U	0.00486	pCi/g						
				+/-0.0133							
Thorium-228			U	0.00315	pCi/g						
				+/-0.0264							
Thorium-232			U	-0.0541	pCi/g						
				+/-0.0563							
Uranium-235			U	-0.0442	pCi/g						
				+/-0.0767							
Uranium-238			U	0.035	pCi/g						
				+/-0.392							
<b>Rad Gas Flow</b>											
Batch	918820										
QC1201962902	240246001	DUP									
Strontium-90	U	0.0243	U	-0.00244	pCi/g	0.00			N/A MXB1	11/08/09	07:47

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 240246

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Rad Gas Flow</b>											
Batch	918820										
				+/-0.0263							+/-0.0212
QC1201962904	LCS										
Strontium-90	1.84				1.74	pCi/g	94.2	(75%-125%)	MXB1	11/08/09	18:52
					+/-0.160						
QC1201962901	MB										
Strontium-90			U		0.017	pCi/g				11/08/09	07:47
					+/-0.0188						
QC1201962903	240246001	MS									
Strontium-90	1.84	U		0.0243	1.50	pCi/g	81.2	(75%-125%)		11/08/09	07:45
				+/-0.0263	+/-0.112						
<b>Rad Liquid Scintillation</b>											
Batch	918850										
QC1201963008	240246001	DUP									
Tritium		U		0.213	-0.296	pCi/g	0.00		N/A	EXK2	11/05/09 19:55
				+/-0.443	+/-0.554						
QC1201963010	LCS										
Tritium	11.4				12.6	pCi/g	110	(75%-125%)		11/05/09	17:32
					+/-2.36						
QC1201963007	MB										
Tritium			U		-0.487	pCi/g				11/05/09	17:51
					+/-0.545						
QC1201963009	240246001	MS									
Tritium	15.3	U		0.213	14.1	pCi/g	92.1	(75%-125%)		11/05/09	17:16
				+/-0.443	+/-2.97						

Notes:

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- 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
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure
- N/A RPD or %Recovery limits do not apply.

# GEL LABORATORIES LLC

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

## QC Summary

Workorder: 240246

Page 4 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.										
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										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.



March 05, 2010

Mr. Sean Leffler  
MWH Americas, Inc  
9444 Farnham Street Suite 300  
San Diego, California 92123

Re: Happy Valley  
Project Number: 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 240254  
SDG: 240254

Dear Mr. Sean Leffler,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 03, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHSD20091102\_01  
Enclosures

GC  
SEMIVOLATILE  
PCB  
ANALYSIS

**PCB  
Certificate of Analysis  
Sample Summary**

SDG Number: 240254  
Lab Sample ID: 240254001

Client: SSFL001  
Date Collected: 11/02/2009 12:46  
Date Received: 11/03/2009 08:45

Project: SSFL00162  
Matrix: Soil  
%Moisture: 7.4  
Prep Basis: Dry Weight  
SOP Ref: GL-OA-E-040  
Instrument: ECD8A.I  
Dilution: 1  
Prep SOP Ref: GL-OA-E-010  
Final Volume: 1 mL

Client ID: HZET0730AS001  
Batch ID: 919460  
Run Date: 11/06/2009 13:56  
Data File: Dual Column  
Prep Batch: 919456  
Prep Date: 11/05/2009 20:48

Method: SW846 8082  
Analyst: JAOC  
Inj. Vol: 1 uL  
Prep Method: SW846 3550B  
Aliquot: 30.19 g

CAS No.	Parmname	Qual	Result	Units	MDL/LOD	PQL/LOQ	RDL	Data File
12674-11-2	Aroclor-1016	U	3.58	ug/kg	1.19	3.58	15.0	032f3201.d
11104-28-2	Aroclor-1221	U	3.58	ug/kg	1.19	3.58	15.0	032f3201.d
11141-16-5	Aroclor-1232	U	3.58	ug/kg	1.19	3.58	15.0	032f3201.d
53469-21-9	Aroclor-1242	U	3.58	ug/kg	1.19	3.58	15.0	032f3201.d
12672-29-6	Aroclor-1248	U	3.58	ug/kg	1.19	3.58	15.0	032f3201.d
11097-69-1	Aroclor-1254	U	3.58	ug/kg	1.19	3.58	15.0	032f3201.d
11096-82-5	Aroclor-1260	U	3.58	ug/kg	1.19	3.58	15.0	032f3201.d

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits	Data File
Decachlorobiphenyl	6.31	7.15	ug/kg	88.2	(33%-115%)	032b3201.d
4cmx	5.78	7.15	ug/kg	80.8	(34%-105%)	032f3201.d

**Comments:**

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





March 05, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 240289  
SDG: 240289

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 03, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHSD20091102\_00  
Enclosures

LC/MS/MS  
PERCHLORATE  
ANALYSIS

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 919113

Extraction Type: Solid Prep

Client Sample No.

HVBF33BS01

Date Received: 03-NOV-09

GEL Job No (SDG): 240289

GEL Sample ID: 240289001

Date Filtered: 05-NOV-09

Injection Volume (uL): 20

%Solids: 100

Sample Volume/Weight: 100 g

Concentrated Extract Volume: 100

CAS No.	Analyte <sup>^</sup>	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.308	ug/L		1	05-NOV-09 16:57	per1105015a
	Perchlorate-O(18)			0.508	ug/L		1	05-NOV-09 16:57	per1105015a

<sup>^</sup> When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

\*Concentration =

Instrument Value X  $\frac{\text{Concentrated Extract Volume}}{\text{Aliquot}}$  X  $\frac{1}{\% \text{Solids}}$



March 05, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 240897  
SDG: 240897

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 11, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHAG20091110\_00  
Enclosures

# **Subcontract Data**

## **Dioxins**

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 240897	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1123001	<b>Date Collected:</b> 11/10/2009 14:33	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/11/2009 10:15	<b>%Moisture:</b> 6.6
<b>Client ID:</b> A2ET0100S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3552	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 22:33	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a_2-4		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3493	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 11-NOV-09	<b>Aliquot:</b> 12.14 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0917	pg/g	0.0917	0.441
40321-76-4	1,2,3,7,8-PeCDD	U	.0933	pg/g	0.0933	2.21
39227-28-6	1,2,3,4,7,8-HxCDD	U	.119	pg/g	0.119	2.21
57653-85-7	1,2,3,6,7,8-HxCDD	JK	0.162	pg/g	0.138	2.21
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.222	pg/g	0.135	2.21
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	1.02	pg/g	0.138	2.21
3268-87-9	1,2,3,4,5,6,7,8-OCDD		5.78	pg/g	0.229	4.41
51207-31-9	2,3,7,8-TCDF	J	0.439	pg/g	0.194	0.441
57117-41-6	1,2,3,7,8-PeCDF	J	0.132	pg/g	0.0771	2.21
57117-31-4	2,3,4,7,8-PeCDF	JK	0.245	pg/g	0.0646	2.21
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.108	pg/g	0.0759	2.21
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.145	pg/g	0.0806	2.21
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.157	pg/g	0.0808	2.21
72918-21-9	1,2,3,7,8,9-HxCDF	U	.106	pg/g	0.106	2.21
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK	0.362	pg/g	0.0815	2.21
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.131	pg/g	0.131	2.21
39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	0.494	pg/g	0.224	4.41
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs		2.70	pg/g	0.0917	0.441
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	J	0.400	pg/g	0.0933	2.21
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	1.04	pg/g	0.119	2.21
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs		2.37	pg/g	0.138	2.21
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		1.95	pg/g	0.194	0.441
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		2.38	pg/g	0.0646	2.21
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	J	1.34	pg/g	0.0759	2.21
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	J	0.566	pg/g	0.0815	2.21
	TEQ WHO2005 ND=0 with EMPCs		0.217	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.268	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		168	176	pg/g	95	(25%-164%)
13C-1,2,3,7,8-PeCDD		182	176	pg/g	103	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		161	176	pg/g	91	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		156	176	pg/g	88	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		145	176	pg/g	82	(23%-140%)
13C-OCDD		328	353	pg/g	93	(17%-157%)
13C-2,3,7,8-TCDF		162	176	pg/g	92	(24%-169%)
13C-1,2,3,7,8-PeCDF		167	176	pg/g	95	(24%-185%)
13C-2,3,4,7,8-PeCDF		205	176	pg/g	116	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		158	176	pg/g	90	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		148	176	pg/g	84	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		160	176	pg/g	91	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		163	176	pg/g	92	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		153	176	pg/g	87	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240897	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1123001	<b>Date Collected:</b> 11/10/2009 14:33	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/11/2009 10:15	<b>%Moisture:</b> 6.6
<b>Client ID:</b> A2ET0100S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3552	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/12/2009 22:33	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a_2-4		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3493	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 11-NOV-09	<b>Aliquot:</b> 12.14 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF		161	176	pg/g	91	(26%-138%)
37Cl-2,3,7,8-TCDD		15.0	17.6	pg/g	85	(35%-197%)

**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240897	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1123001	<b>Date Collected:</b> 11/10/2009 14:33	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/11/2009 10:15	<b>%Moisture:</b> 6.6
<b>Client ID:</b> A2ET0100S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3552	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 15:45	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b13nov09a_2-4		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3493	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 11-NOV-09	<b>Aliquot:</b> 12.14 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.281	pg/g	0.0697	0.441

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.



**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 240897	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1123002	<b>Date Collected:</b> 11/10/2009 14:29	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/11/2009 10:15	<b>%Moisture:</b> 5.9
<b>Client ID:</b> A2ET0101S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3552	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 00:57	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a_2-7		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3493	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 11-NOV-09	<b>Aliquot:</b> 12.41 g	

CAS No.	Parname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0866	pg/g	0.0866	0.428
40321-76-4	1,2,3,7,8-PeCDD	J	0.113	pg/g	0.0692	2.14
39227-28-6	1,2,3,4,7,8-HxCDD	JK	0.142	pg/g	0.0957	2.14
57653-85-7	1,2,3,6,7,8-HxCDD	JK	0.142	pg/g	0.110	2.14
19408-74-3	1,2,3,7,8,9-HxCDD	JK	0.176	pg/g	0.108	2.14
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.318	pg/g	0.168	2.14
3268-87-9	1,2,3,4,5,6,7,8-OCDD	J	0.798	pg/g	0.228	4.28
51207-31-9	2,3,7,8-TCDF	J	0.236	pg/g	0.106	0.428
57117-41-6	1,2,3,7,8-PeCDF	J	0.137	pg/g	0.0565	2.14
57117-31-4	2,3,4,7,8-PeCDF	J	0.170	pg/g	0.0473	2.14
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.147	pg/g	0.0657	2.14
57117-44-9	1,2,3,6,7,8-HxCDF	JK	0.144	pg/g	0.0695	2.14
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.164	pg/g	0.0668	2.14
72918-21-9	1,2,3,7,8,9-HxCDF	J	0.152	pg/g	0.0887	2.14
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.195	pg/g	0.0759	2.14
55673-89-7	1,2,3,4,7,8,9-HpCDF	J	0.158	pg/g	0.124	2.14
39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	0.454	pg/g	0.214	4.28
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	J	0.089	pg/g	0.0866	0.428
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	J	0.113	pg/g	0.0692	2.14
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	0.461	pg/g	0.0957	2.14
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	J	0.318	pg/g	0.168	2.14
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs		0.579	pg/g	0.106	0.428
30402-15-4	Total Pentachlorodibenzofuran with EMPCs	J	0.306	pg/g	0.0473	2.14
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	J	0.608	pg/g	0.0657	2.14
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	J	0.353	pg/g	0.0759	2.14
	TEQ WHO2005 ND=0 with EMPCs		0.306	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.349	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		162	171	pg/g	94	(25%-164%)
13C-1,2,3,7,8-PeCDD		190	171	pg/g	111	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		151	171	pg/g	88	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		150	171	pg/g	88	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		145	171	pg/g	85	(23%-140%)
13C-OCDD		292	342	pg/g	85	(17%-157%)
13C-2,3,7,8-TCDF		154	171	pg/g	90	(24%-169%)
13C-1,2,3,7,8-PeCDF		172	171	pg/g	100	(24%-185%)
13C-2,3,4,7,8-PeCDF		209	171	pg/g	122	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		148	171	pg/g	86	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		138	171	pg/g	81	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		149	171	pg/g	87	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		159	171	pg/g	93	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		153	171	pg/g	89	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240897	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1123002	<b>Date Collected:</b> 11/10/2009 14:29	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/11/2009 10:15	<b>%Moisture:</b> 5.9
<b>Client ID:</b> A2ET0101S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3552	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 00:57	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a_2-7		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3493	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 11-NOV-09	<b>Aliquot:</b> 12.41 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			161	171	pg/g	94
37Cl-2,3,7,8-TCDD			14.5	17.1	pg/g	85

**Comments:**  
**J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240897	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1123002	<b>Date Collected:</b> 11/10/2009 14:29	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/11/2009 10:15	<b>%Moisture:</b> 5.9
<b>Client ID:</b> A2ET0101S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3552	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 12:28	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b13nov09a-11		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3493	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 11-NOV-09	<b>Aliquot:</b> 12.41 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.382	pg/g	0.0959	0.428

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**  
**J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 240897	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1123003	<b>Date Collected:</b> 11/10/2009 14:38	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/11/2009 10:15	<b>%Moisture:</b> 3.2
<b>Client ID:</b> A2ET0102S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3552	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 01:45	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a_2-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3493	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 11-NOV-09	<b>Aliquot:</b> 13.04 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0734	pg/g	0.0734	0.396
40321-76-4	1,2,3,7,8-PeCDD	U	.058	pg/g	0.058	1.98
39227-28-6	1,2,3,4,7,8-HxCDD	U	.0911	pg/g	0.0911	1.98
57653-85-7	1,2,3,6,7,8-HxCDD	U	.1	pg/g	0.100	1.98
19408-74-3	1,2,3,7,8,9-HxCDD	U	.1	pg/g	0.100	1.98
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.122	pg/g	0.122	1.98
3268-87-9	1,2,3,4,5,6,7,8-OCDD	J	0.461	pg/g	0.178	3.96
51207-31-9	2,3,7,8-TCDF	JK	0.244	pg/g	0.0834	0.396
57117-41-6	1,2,3,7,8-PeCDF	U	.0585	pg/g	0.0585	1.98
57117-31-4	2,3,4,7,8-PeCDF	U	.052	pg/g	0.052	1.98
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0572	pg/g	0.0572	1.98
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0586	pg/g	0.0586	1.98
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0606	pg/g	0.0606	1.98
72918-21-9	1,2,3,7,8,9-HxCDF	U	.0772	pg/g	0.0772	1.98
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0651	pg/g	0.0651	1.98
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.11	pg/g	0.110	1.98
39001-02-0	1,2,3,4,5,6,7,8-OCDF	U	.144	pg/g	0.144	3.96
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	J	0.0808	pg/g	0.0734	0.396
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.058	pg/g	0.058	1.98
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	U	.0911	pg/g	0.0911	1.98
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	U	.122	pg/g	0.122	1.98
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs	J	0.244	pg/g	0.0834	0.396
30402-15-4	Total Pentachlorodibenzofuran with EMPCs	U	.052	pg/g	0.052	1.98
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	U	.0572	pg/g	0.0572	1.98
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	U	.0651	pg/g	0.0651	1.98
	TEQ WHO2005 ND=0 with EMPCs		0.0245	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.0421	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		159	159	pg/g	100	(25%-164%)
13C-1,2,3,7,8-PeCDD		163	159	pg/g	103	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		147	159	pg/g	93	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		137	159	pg/g	86	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		131	159	pg/g	83	(23%-140%)
13C-OCDD		335	317	pg/g	106	(17%-157%)
13C-2,3,7,8-TCDF		164	159	pg/g	103	(24%-169%)
13C-1,2,3,7,8-PeCDF		153	159	pg/g	97	(24%-185%)
13C-2,3,4,7,8-PeCDF		184	159	pg/g	116	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		142	159	pg/g	89	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		134	159	pg/g	85	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		142	159	pg/g	90	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		149	159	pg/g	94	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		141	159	pg/g	89	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240897	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1123003	<b>Date Collected:</b> 11/10/2009 14:38	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/11/2009 10:15	<b>%Moisture:</b> 3.2
<b>Client ID:</b> A2ET0102S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3552	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 01:45	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b12nov09a_2-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3493	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 11-NOV-09	<b>Aliquot:</b> 13.04 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			148	159	pg/g	93
37Cl-2,3,7,8-TCDD			13.8	15.9	pg/g	87

**Comments:**  
**J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 240897	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1123003	<b>Date Collected:</b> 11/10/2009 14:38	<b>Matrix:</b> SOIL
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/11/2009 10:15	<b>%Moisture:</b> 3.2
<b>Client ID:</b> A2ET0102S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3552	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/13/2009 15:45	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b13nov09a_2-4		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3493	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 11-NOV-09	<b>Aliquot:</b> 13.04 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.252	pg/g	0.0626	0.396

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.



March 05, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.05462  
Project Name: ISRA Sampling, August 2009  
Work Order: 241179  
SDG: 241179

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 17, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.05462  
Chain of Custody: MWHAG20091116\_00  
Enclosures

# Metals Analysis



**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 241179

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 241179001

**BASIS:** Dry Weight

**DATE COLLECTED** 16-NOV-09

**CLIENT ID:** A2ET0200S001

**LEVEL:** Low

**DATE RECEIVED** 17-NOV-09

**MATRIX:** SOIL

**%SOLIDS:** 88

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	6.3	mg/kg		0.109	0.435	0.4	2	MS	PRB	11/19/09 12:27	091119-1	923814

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
923814	923813	SW846 3050B	0.525	g	50	mL	11/18/09	FGA

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 241179

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 241179002

**BASIS:** Dry Weight

**DATE COLLECTED** 16-NOV-09

**CLIENT ID:** A2ET0201S001

**LEVEL:** Low

**DATE RECEIVED** 17-NOV-09

**MATRIX:** SOIL

**%SOLIDS:** 92.2

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	6.66	mg/kg		0.106	0.425	0.4	2	MS	PRB	11/19/09 12:38	091119-1	923814

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
923814	923813	SW846 3050B	0.51	g	50	mL	11/18/09	FGA

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 241179

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 241179003

**BASIS:** Dry Weight

**DATE COLLECTED** 16-NOV-09

**CLIENT ID:** A2ET0202S001

**LEVEL:** Low

**DATE RECEIVED** 17-NOV-09

**MATRIX:** SOIL

**%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	6.93	mg/kg		0.108	0.432	0.4	2	MS	PRB	11/19/09 12:41	091119-1	923814

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
923814	923813	SW846 3050B	0.518	g	50	mL	11/18/09	FGA

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 241179

**CONTRACT:** SSFL00160

**METHOD TYPE:** SW846

**SAMPLE ID:** 241179004

**BASIS:** Dry Weight

**DATE COLLECTED** 16-NOV-09

**CLIENT ID:** A2ET0203S001

**LEVEL:** Low

**DATE RECEIVED** 17-NOV-09

**MATRIX:** SOIL

**%SOLIDS:** 91.5

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	17.3	mg/kg		0.104	0.417	0.4	2	MS	PRB	11/19/09 12:43	091119-1	923814

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
923814	923813	SW846 3050B	0.524	g	50	mL	11/18/09	FGA

# **Subcontract Data**

## **Dioxins**

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144001	<b>Date Collected:</b> 11/16/2009 10:50	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 9.5
<b>Client ID:</b> A2ET0200S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/20/2009 22:45	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b20nov09a_2-4		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 13.36 g	

CAS No.	Parname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.109	pg/g	0.109	0.414
40321-76-4	1,2,3,7,8-PeCDD	U	.114	pg/g	0.114	2.07
39227-28-6	1,2,3,4,7,8-HxCDD	U	.137	pg/g	0.137	2.07
57653-85-7	1,2,3,6,7,8-HxCDD	JK	0.155	pg/g	0.153	2.07
19408-74-3	1,2,3,7,8,9-HxCDD	U	.152	pg/g	0.152	2.07
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	2.03	pg/g	0.232	2.07
3268-87-9	1,2,3,4,5,6,7,8-OCDD		21.0	pg/g	0.380	4.14
51207-31-9	2,3,7,8-TCDF	J	0.280	pg/g	0.169	0.414
57117-41-6	1,2,3,7,8-PeCDF	JK	0.122	pg/g	0.0895	2.07
57117-31-4	2,3,4,7,8-PeCDF	JK	0.144	pg/g	0.0916	2.07
70648-26-9	1,2,3,4,7,8-HxCDF	U	.115	pg/g	0.115	2.07
57117-44-9	1,2,3,6,7,8-HxCDF	U	.118	pg/g	0.118	2.07
60851-34-5	2,3,4,6,7,8-HxCDF	U	.122	pg/g	0.122	2.07
72918-21-9	1,2,3,7,8,9-HxCDF	U	.17	pg/g	0.170	2.07
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK	0.341	pg/g	0.112	2.07
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.189	pg/g	0.189	2.07
39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	1.07	pg/g	0.394	4.14
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	J	0.235	pg/g	0.109	0.414
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.114	pg/g	0.114	2.07
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	0.423	pg/g	0.137	2.07
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs		4.21	pg/g	0.232	2.07
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs	BJ	0.280	pg/g	0.169	0.414
30402-15-4	Total Pentachlorodibenzofuran with EMPCs	J	0.581	pg/g	0.0895	2.07
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	J	0.399	pg/g	0.115	2.07
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	J	0.731	pg/g	0.112	2.07
	TEQ WHO2005 ND=0 with EMPCs		0.121	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.274	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		147	165	pg/g	89	(25%-164%)
13C-1,2,3,7,8-PeCDD		155	165	pg/g	94	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		151	165	pg/g	91	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		152	165	pg/g	92	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		144	165	pg/g	87	(23%-140%)
13C-OCDD		282	331	pg/g	85	(17%-157%)
13C-2,3,7,8-TCDF		148	165	pg/g	89	(24%-169%)
13C-1,2,3,7,8-PeCDF		152	165	pg/g	92	(24%-185%)
13C-2,3,4,7,8-PeCDF		158	165	pg/g	95	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		150	165	pg/g	91	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		140	165	pg/g	85	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		151	165	pg/g	91	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		154	165	pg/g	93	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		147	165	pg/g	89	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144001	<b>Date Collected:</b> 11/16/2009 10:50	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 9.5
<b>Client ID:</b> A2ET0200S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/20/2009 22:45	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b20nov09a_2-4		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 13.36 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF		151	165	pg/g	91	(26%-138%)
37Cl-2,3,7,8-TCDD		15.5	16.5	pg/g	94	(35%-197%)

**Comments:**

- B** For General Chemistry and Organic analysis the target analyte was detected in the associated blank.  
**J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144001	<b>Date Collected:</b> 11/16/2009 10:50	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 9.5
<b>Client ID:</b> A2ET0200S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/21/2009 10:02	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21nov09a-4		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 13.36 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.366	pg/g	0.118	0.414

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- B** For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.



**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144002	<b>Date Collected:</b> 11/16/2009 10:40	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 7.6
<b>Client ID:</b> A2ET0201S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/21/2009 01:09	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b20nov09a_2-7		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 12.69 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.106	pg/g	0.106	0.426
40321-76-4	1,2,3,7,8-PeCDD	J	0.208	pg/g	0.106	2.13
39227-28-6	1,2,3,4,7,8-HxCDD	JK	0.227	pg/g	0.138	2.13
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.423	pg/g	0.152	2.13
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.517	pg/g	0.152	2.13
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.742	pg/g	0.297	2.13
3268-87-9	1,2,3,4,5,6,7,8-OCDD		5.14	pg/g	0.507	4.26
51207-31-9	2,3,7,8-TCDF	JK	0.373	pg/g	0.176	0.426
57117-41-6	1,2,3,7,8-PeCDF	JK	0.229	pg/g	0.0952	2.13
57117-31-4	2,3,4,7,8-PeCDF	J	0.208	pg/g	0.0868	2.13
70648-26-9	1,2,3,4,7,8-HxCDF	JK	0.196	pg/g	0.0842	2.13
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.416	pg/g	0.0877	2.13
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.268	pg/g	0.0907	2.13
72918-21-9	1,2,3,7,8,9-HxCDF	J	0.309	pg/g	0.129	2.13
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.300	pg/g	0.120	2.13
55673-89-7	1,2,3,4,7,8,9-HpCDF	JK	0.288	pg/g	0.211	2.13
39001-02-0	1,2,3,4,5,6,7,8-OCDF	JK	0.865	pg/g	0.382	4.26
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	J	0.116	pg/g	0.106	0.426
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	J	0.208	pg/g	0.106	2.13
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	1.17	pg/g	0.138	2.13
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	J	1.45	pg/g	0.297	2.13
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs	B	0.628	pg/g	0.176	0.426
30402-15-4	Total Pentachlorodibenzofuran with EMPCs	J	0.865	pg/g	0.0868	2.13
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	J	1.48	pg/g	0.0842	2.13
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	J	0.588	pg/g	0.120	2.13
	TEQ WHO2005 ND=0 with EMPCs		0.565	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.618	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		150	171	pg/g	88	(25%-164%)
13C-1,2,3,7,8-PeCDD		163	171	pg/g	95	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		161	171	pg/g	94	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		158	171	pg/g	92	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		150	171	pg/g	88	(23%-140%)
13C-OCDD		279	341	pg/g	82	(17%-157%)
13C-2,3,7,8-TCDF		152	171	pg/g	89	(24%-169%)
13C-1,2,3,7,8-PeCDF		158	171	pg/g	92	(24%-185%)
13C-2,3,4,7,8-PeCDF		174	171	pg/g	102	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		159	171	pg/g	93	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		154	171	pg/g	91	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		160	171	pg/g	94	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		162	171	pg/g	95	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		154	171	pg/g	90	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144002	<b>Date Collected:</b> 11/16/2009 10:40	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 7.6
<b>Client ID:</b> A2ET0201S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/21/2009 01:09	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b20nov09a_2-7		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 12.69 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF		156	171	pg/g	91	(26%-138%)
37Cl-2,3,7,8-TCDD		15.9	17.1	pg/g	93	(35%-197%)

**Comments:**

- B** For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144002	<b>Date Collected:</b> 11/16/2009 10:40	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 7.6
<b>Client ID:</b> A2ET0201S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/21/2009 11:07	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21nov09a-7		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 12.69 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF	J	0.423	pg/g	0.157	0.426

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- B** For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144003	<b>Date Collected:</b> 11/16/2009 10:38	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 10.1
<b>Client ID:</b> A2ET0202S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	<b>Instrument:</b> HRP763
<b>Run Date:</b> 11/21/2009 01:57	<b>Analyst:</b> HMP	<b>Dilution:</b> 1
<b>Data File:</b> b20nov09a_2-8		
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 14.82 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.107	pg/g	0.107	0.375
40321-76-4	1,2,3,7,8-PeCDD	U	.0902	pg/g	0.0902	1.88
39227-28-6	1,2,3,4,7,8-HxCDD	U	.109	pg/g	0.109	1.88
57653-85-7	1,2,3,6,7,8-HxCDD	U	.118	pg/g	0.118	1.88
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.120	pg/g	0.119	1.88
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.847	pg/g	0.200	1.88
3268-87-9	1,2,3,4,5,6,7,8-OCDD		7.24	pg/g	0.305	3.75
51207-31-9	2,3,7,8-TCDF	J	0.243	pg/g	0.156	0.375
57117-41-6	1,2,3,7,8-PeCDF	U	.0778	pg/g	0.0778	1.88
57117-31-4	2,3,4,7,8-PeCDF	U	.0739	pg/g	0.0739	1.88
70648-26-9	1,2,3,4,7,8-HxCDF	U	.089	pg/g	0.089	1.88
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0953	pg/g	0.0953	1.88
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0973	pg/g	0.0973	1.88
72918-21-9	1,2,3,7,8,9-HxCDF	U	.137	pg/g	0.137	1.88
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.147	pg/g	0.100	1.88
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.174	pg/g	0.174	1.88
39001-02-0	1,2,3,4,5,6,7,8-OCDF	U	.344	pg/g	0.344	3.75
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	J	0.258	pg/g	0.107	0.375
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.0902	pg/g	0.0902	1.88
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	0.240	pg/g	0.109	1.88
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs	J	1.71	pg/g	0.200	1.88
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs	B	0.709	pg/g	0.156	0.375
30402-15-4	Total Pentachlorodibenzofuran with EMPCs	J	0.123	pg/g	0.0739	1.88
55684-94-1	Total Hexachlorodibenzofuran with EMPCs	J	0.183	pg/g	0.089	1.88
38998-75-3	Total Heptachlorodibenzofuran with EMPCs	J	0.311	pg/g	0.100	1.88
	TEQ WHO2005 ND=0 with EMPCs		0.0484	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.192	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		138	150	pg/g	92	(25%-164%)
13C-1,2,3,7,8-PeCDD		144	150	pg/g	96	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		144	150	pg/g	96	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		141	150	pg/g	94	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		130	150	pg/g	87	(23%-140%)
13C-OCDD		254	300	pg/g	85	(17%-157%)
13C-2,3,7,8-TCDF		137	150	pg/g	91	(24%-169%)
13C-1,2,3,7,8-PeCDF		138	150	pg/g	92	(24%-185%)
13C-2,3,4,7,8-PeCDF		153	150	pg/g	102	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		141	150	pg/g	94	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		136	150	pg/g	91	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		141	150	pg/g	94	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		143	150	pg/g	95	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		136	150	pg/g	91	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144003	<b>Date Collected:</b> 11/16/2009 10:38	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 10.1
<b>Client ID:</b> A2ET0202S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/21/2009 01:57	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b20nov09a_2-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 14.82 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF			137	150	pg/g	91 (26%-138%)
37Cl-2,3,7,8-TCDD			14.2	15.0	pg/g	95 (35%-197%)

**Comments:**

- B** For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144003	<b>Date Collected:</b> 11/16/2009 10:38	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 10.1
<b>Client ID:</b> A2ET0202S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/21/2009 11:29	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21nov09a-8		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 14.82 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF	JK	0.339	pg/g	0.113	0.375

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- B** For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 2

<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144004	<b>Date Collected:</b> 11/16/2009 10:30	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 8.2
<b>Client ID:</b> A2ET0203S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/21/2009 02:45	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b20nov09a_2-9		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 13.62 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.104	pg/g	0.104	0.400
40321-76-4	1,2,3,7,8-PeCDD	U	.112	pg/g	0.112	2.00
39227-28-6	1,2,3,4,7,8-HxCDD	U	.128	pg/g	0.128	2.00
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.278	pg/g	0.142	2.00
19408-74-3	1,2,3,7,8,9-HxCDD	JK	0.275	pg/g	0.141	2.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		4.80	pg/g	0.286	2.00
3268-87-9	1,2,3,4,5,6,7,8-OCDD		54.6	pg/g	0.448	4.00
51207-31-9	2,3,7,8-TCDF	JK	0.387	pg/g	0.272	0.400
57117-41-6	1,2,3,7,8-PeCDF	U	.138	pg/g	0.138	2.00
57117-31-4	2,3,4,7,8-PeCDF	JK	0.293	pg/g	0.134	2.00
70648-26-9	1,2,3,4,7,8-HxCDF	JK	0.102	pg/g	0.0908	2.00
57117-44-9	1,2,3,6,7,8-HxCDF	JK	0.114	pg/g	0.0915	2.00
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.237	pg/g	0.0918	2.00
72918-21-9	1,2,3,7,8,9-HxCDF	U	.129	pg/g	0.129	2.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.852	pg/g	0.125	2.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.221	pg/g	0.221	2.00
39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	2.79	pg/g	0.373	4.00
41903-57-5	Total Tetrachlorodibenzo-p-dioxin with EMPCs	U	.104	pg/g	0.104	0.400
36088-22-9	Total Pentachlorodibenzo-p-dioxin with EMPCs	U	.112	pg/g	0.112	2.00
34465-46-8	Total Hexachlorodibenzo-p-dioxin with EMPCs	J	1.58	pg/g	0.128	2.00
37871-00-4	Total Heptachlorodibenzo-p-dioxin with EMPCs		12.4	pg/g	0.286	2.00
30402-14-3	Total Tetrachlorodibenzofuran with EMPCs	B	3.11	pg/g	0.272	0.400
30402-15-4	Total Pentachlorodibenzofuran with EMPCs		8.31	pg/g	0.134	2.00
55684-94-1	Total Hexachlorodibenzofuran with EMPCs		2.48	pg/g	0.0908	2.00
38998-75-3	Total Heptachlorodibenzofuran with EMPCs		2.28	pg/g	0.125	2.00
	TEQ WHO2005 ND=0 with EMPCs		0.301	pg/g		
	TEQ WHO2005 ND=0.5 with EMPCs		0.425	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		146	160	pg/g	92	(25%-164%)
13C-1,2,3,7,8-PeCDD		157	160	pg/g	98	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		152	160	pg/g	95	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		152	160	pg/g	95	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		136	160	pg/g	85	(23%-140%)
13C-OCDD		270	320	pg/g	84	(17%-157%)
13C-2,3,7,8-TCDF		147	160	pg/g	92	(24%-169%)
13C-1,2,3,7,8-PeCDF		155	160	pg/g	97	(24%-185%)
13C-2,3,4,7,8-PeCDF		169	160	pg/g	106	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		152	160	pg/g	95	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		146	160	pg/g	91	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		152	160	pg/g	95	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		156	160	pg/g	98	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		145	160	pg/g	91	(28%-143%)

**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 2 of 2

<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144004	<b>Date Collected:</b> 11/16/2009 10:30	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 8.2
<b>Client ID:</b> A2ET0203S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/21/2009 02:45	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b20nov09a_2-9		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 13.62 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
<b>Surrogate/Tracer recovery</b>						
		<b>Qual</b>	<b>Result</b>	<b>Nominal</b>	<b>Units</b>	<b>Recovery%</b>
						<b>Acceptable Limits</b>
13C-1,2,3,4,7,8,9-HpCDF		144	160	pg/g	90	(26%-138%)
37Cl-2,3,7,8-TCDD		15.1	16.0	pg/g	94	(35%-197%)

**Comments:**

- B** For General Chemistry and Organic analysis the target analyte was detected in the associated blank.  
**J** Value is estimated  
**K** Estimated Maximum Possible Concentration  
**U** Analyte was analyzed for , but not detected above the specified detection limit.



**Hi-Res Dioxins/Furans  
Certificate of Analysis  
Sample Summary**

Page 1 of 1

<b>SDG Number:</b> 241179	<b>Client:</b> BOEN001	<b>Project:</b> BOEN00309
<b>Lab Sample ID:</b> 1144004	<b>Date Collected:</b> 11/16/2009 10:30	<b>Matrix:</b> Soil
<b>Client Sample:</b> 1613 Soil	<b>Date Received:</b> 11/19/2009 09:40	<b>%Moisture:</b> 8.2
<b>Client ID:</b> A2ET0203S001		<b>Prep Basis:</b> Dry Weight
<b>Batch ID:</b> 3892	<b>Method:</b> EPA Method 1613B	
<b>Run Date:</b> 11/21/2009 11:50	<b>Analyst:</b> HMP	<b>Instrument:</b> HRP763
<b>Data File:</b> b21nov09a-9		<b>Dilution:</b> 1
<b>Prep Batch:</b> 3773	<b>Prep Method:</b> SW846 3540C	
<b>Prep Date:</b> 19-NOV-09	<b>Aliquot:</b> 13.62 g	

CAS No.	Parmname	Qual	Result	Units	EMPC/EDL	PQL
51207-31-9	2,3,7,8-TCDF	K	0.491	pg/g	0.160	0.400

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
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**Comments:**

- B** For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for , but not detected above the specified detection limit.



March 01, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.054521  
Project Name: ISRA Sampling, June 2009  
Work Order: 243643  
SDG: 243643H

Dear Ms. Elizabeth Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 15, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.054521  
Chain of Custody: MWHMM20090714\_001  
Enclosures

# **Metals Analysis**

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** 243643H

**CONTRACT:** SSFL00149

**METHOD TYPE:** SW846

**SAMPLE ID:** 243643001

**BASIS:** Dry Weight

**DATE COLLECTED** 14-JUL-09

**CLIENT ID:** ENBS0089S001

**LEVEL:** Low

**DATE RECEIVED** 15-JUL-09

**MATRIX:** SOIL

**%SOLIDS:** 98.5

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7439-92-1	Lead	24.2	mg/kg	*E	0.101	0.405	0.4	2	MS	BAJ	01/01/10 09:14	091231-1	937865

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
937865	937864	SW846 3050B	0.502	g	50	mL	12/31/09	AXG2



January 04, 2010

Ms. Elizabeth Wessling  
MECx, LLC  
3061 West 92nd Ave #10-D  
Westminster, Colorado 80031

Re: SSFL  
Project Number: 1891614.054521  
Project Name: ISRA Sampling, June 2009  
Work Order: 243715  
SDG: 243715H

Dear Ms. Wessling,

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 15, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4406.

Sincerely,

Jacqueline Trudell  
Project Manager

Purchase Order: 1891614.054521  
Chain of Custody: MWHSV20090714\_00  
Enclosures

## GEL LABORATORIES LLC

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

### Certificate of Analysis Report for

SSFL001 Boeing – SSFL (MWH)

Client SDG: 243715H GEL Work Order: 243715

**The Qualifiers in this report are defined as follows:**

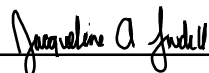
- \* A quality control analyte recovery is outside of specified acceptance criteria
- \*\* Analyte is a surrogate compound
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jacqueline Trudell.

Reviewed by



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# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10-D  
          Westminster, Colorado 80031  
Contact: Ms. Elizabeth Wessling  
Project: **ISRA Sampling, June 2009**

Report Date: January 4, 2010

Client Sample ID: LFBS0214S001  
Sample ID: 243715001  
Matrix: Soil  
Collect Date: 14-JUL-09 11:28  
Receive Date: 15-JUL-09  
Collector: Client  
Moisture: 2.07%

Project: SSFL00149  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Metals Analysis-ICP-MS</b>											
<i>6020 TAL Metals Soil Federal "Dry Weight Corrected"</i>											
Arsenic 7440382		9.07	0.204	1.02	mg/kg	2	BAJ	07/20/09	2333	937968	1
Barium 7440393		76.7	0.102	0.408	mg/kg	2					
Cadmium 7440439		0.221	0.0204	0.204	mg/kg	2					
Lead 7439921		21.8	0.102	0.408	mg/kg	2					
Molybdenum 7439987		0.579	0.0613	0.204	mg/kg	2					
Selenium 7782492	U	ND	0.511	1.02	mg/kg	2					
Silver 7440224	J	0.0517	0.0408	0.204	mg/kg	2					
Thallium 7440280		0.386	0.0613	0.204	mg/kg	2					
Zinc 7440666		110	0.408	2.04	mg/kg	2					
Chromium 7440473		22.8	1.02	3.06	mg/kg	10	BAJ	07/21/09	0052	937968	2
Cobalt 7440484		7.79	0.306	1.02	mg/kg	10					
Copper 7440508		14.9	0.337	1.02	mg/kg	10					
Nickel 7440020		14.5	0.511	2.04	mg/kg	10					
Vanadium 7440622		36.5	2.04	10.2	mg/kg	10					

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP-MS 3050BS PREP	AXG2	07/16/09	1400	937966

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3050B/6020	





# GEL LABORATORIES LLC

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

## Certificate of Analysis

Company : MECx, LLC  
Address : 3061 West 92nd Ave  
          #10–D  
          Westminster, Colorado 80031  
Contact: Ms. Elizabeth Wessling  
Project: **ISRA Sampling, June 2009**

Report Date: January 4, 2010

Client Sample ID: LFBS0215S001  
Sample ID: 243715002  
Matrix: Soil  
Collect Date: 14–JUL–09 11:37  
Receive Date: 15–JUL–09  
Collector: Client  
Moisture: 15.7%

Project: SSFL00149  
Client ID: SSFL001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Metals Analysis–ICP–MS</b>											
<i>6020 TAL Metals Soil Federal "Dry Weight Corrected"</i>											
Arsenic 7440382		4.97	0.233	1.16	mg/kg	2	BAJ	07/20/09	2339	937968	1
Barium 7440393		89.0	0.116	0.465	mg/kg	2					
Beryllium 7440417		0.458	0.0233	0.116	mg/kg	2					
Cadmium 7440439		0.651	0.0233	0.233	mg/kg	2					
Chromium 7440473		16.3	0.233	0.698	mg/kg	2					
Cobalt 7440484		9.72	0.0698	0.233	mg/kg	2					
Copper 7440508		10.3	0.0767	0.233	mg/kg	2					
Lead 7439921		54.2	0.116	0.465	mg/kg	2					
Molybdenum 7439987		0.498	0.0698	0.233	mg/kg	2					
Nickel 7440020		13.7	0.116	0.465	mg/kg	2					
Selenium 7782492	U	ND	0.581	1.16	mg/kg	2					
Silver 7440224	J	0.0514	0.0465	0.233	mg/kg	2					
Thallium 7440280		0.337	0.0698	0.233	mg/kg	2					
Zinc 7440666		220	0.465	2.33	mg/kg	2					

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3050B	ICP–MS 3050BS PREP	AXG2	07/16/09	1400	937966

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3050B/6020	

# GEL LABORATORIES LLC

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

## QC Summary

Report Date: January 4, 2010

Page 1 of 2

MECx, LLC  
3061 West 92nd Ave  
#10-D  
Westminster, Colorado  
Ms. Elizabeth Wessling

Contact:

Workorder: 243715

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
---------	-----	--------	------	----	-------	------	------	-------	-------	------	------

### Notes:

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- 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
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- 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
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- h Preparation or preservation holding time was exceeded

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 243715

Page 2 of 2

<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
-----------------	------------	--------------------	-----------	--------------	-------------	-------------	--------------	--------------	-------------	-------------

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

243715H



# CHAIN OF CUSTODY RECORD

COC #: 29344A JT 01/04/10 Page: 1 of 2

Customer Information		Project Information			Project Information	
Site:	SSFL	Client Name:	Boeing	Collector:	M. Milman-Barris	Boeing PM:
Company:	MWH	Sampling Event:	ISRA Sampling, June 2009	Contact #:		
Report to:	Sarah Von Raesfeld	Project Number:	1891614.054521	Requested Analyses		
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl			
	Suite 600	PM Phone #:	(925) 627-4627			
	Walnut Creek	Field Contact:	Shelby Valenzuela			
	CA	Field Contact #:	(626) 255-0503			
	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		Comments
ENBS0089S001	Soil	7/14/2009	12:17	1		
ENBS0090S001	Soil	7/14/2009	12:22	1		
ENBS0091S001	Soil	7/14/2009	12:14	1		
ENBS0094S001	Soil	7/14/2009	11:23	1		
ENBS0095S001	Soil	7/14/2009	11:30	1		
ENBS0096S001	Soil	7/14/2009	11:38	1		
HZBS0129S001	Soil	7/14/2009	8:17	1		
HZBS0131S001	Soil	7/14/2009	8:35	1		
HZBS0133S001	Soil	7/14/2009	8:47	1		
HZBS0135S001	Soil	7/14/2009	9:00	1		
					D2216 Moisture Soil	
					Dioxin by 1613B - Soil	
					Metals 6020 Soil Lead	

1. Relinquished by:	Date: 7/14/09	Time: 1450	2. Received by:	Date: 7/15/09	Time: 0900	Company: GEL
Company: MWH			Company: GEL			
3. Relinquished by:			4. Received by:			
Date:	Date:	Date:	Date:	Date:	Date:	
Time:	Time:	Time:	Time:	Time:	Time:	
Company:	Company:	Company:	Company:	Company:	Company:	

Comments:  Geotracker EDF  Data Validation Package  Level IV

Legend:  
 Numerical values for analyses equate to turn around time in days  
 H - Hold  
 EH - Extract/Extrude & Hold  
 Note: Values in the cells below are Turn Around Times.

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD



**CHAIN OF CUSTODY RECORD**

233444

Customer Information		Project Information				Project Information	
Site:	SSFL	Client Name:	Boeing	Collector:	M. Milman-Barris	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, June 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.054521	Requested Analyses			
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Shelby Valenzuela				
	CA	Field Contact #:	(626) 255-0503				
	94596	Lab Name:	GEL Laboratories, LLC				
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell				
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road				
		Lab Phone:	Charleston, SC 29407				
			(843) 769-7388				
Sample Name	Matrix	Date	Time	No. of Containers			
HZBS0137S001	Soil	7/14/2009	9:20	1	Metals 6020 Soil Lead	5	
HZBS0139S001	Soil	7/14/2009	9:37	1	Dioxin by 1613B - Soil	5	
HZBS0141S001	Soil	7/14/2009	9:50	1	D2216 Moisture Soil	5	
HZBS0143S001	Soil	7/14/2009	10:18	1		5	

**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 below are Turn Around Times.

Metals 6020 Soil Lead  
 Dioxin by 1613B - Soil  
 D2216 Moisture Soil

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
<i>[Signature]</i>	7/14/09	<i>[Signature]</i>	7/15/09				
Company: MWH	Time: 1450	Company: GEL	Time: 0900	Company:	Time:	Company:	Time:

Comments:

Geotracker EDF

Data Validation Package  Level IV





**CHAIN OF CUSTODY RECORD**

COC #:

MWHSV20090714\_00

Page: 2 of 2

Customer Information		Project Information				Project Information	
Site:	SSFL	Client Name:	Boeing	Collector:	S. Valenzuela	Boeing PM:	
Company:	MWH	Sampling Event:	ISRA Sampling, June 2009	Contact #:			
Report to:	Sarah Von Raesfeld	Project Number:	1891614.054521	Requested Analyses			
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl				
	Suite 600	PM Phone #:	(925) 627-4627				
	Walnut Creek	Field Contact:	Shelby Valenzuela				
	CA	Field Contact #:	(626) 255-0503				
	94596	Lab Name:	GEL Laboratories, LLC				
	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			
HZBS0140S001	Soil	7/14/2009	9:17	1	D2216 Moisture Soil	5	
HZBS0142S001	Soil	7/14/2009	9:32	1	Metals 6020 Cd Water	5	
HZBS0144S001	Soil	7/14/2009	9:37	1	Metals 6020 Cu Water	5	
HZBS0145S001	Soil	7/14/2009	9:47	1	Metals 6020 Soil Arsenic	5	
					Metals 6020 Soil Cadmium	5	
					Metals 6020 Soil Copper	5	
					Metals 6020 Soil Lead	5	
					Metals 6020 Soil Zinc	5	
					Metals 6020 Water Arsenic	5	
					Metals 6020 Water Lead	5	
					Metals 6020 Zn Water	5	
					TPH by SW8015BM - Soil	5	
					TPH by SW8015BM - Water	5	

**Legend:**  
 Numerical values for analyses equate to turn around time in days  
 H - Hold  
 EH - Extract/Extrude & Hold  
 Note: Values in the cells below are Turn Around Times.

**Instructions/TAT**

**Comments**

1. Relinquished by:		Date:	7/14/09	2. Received by:		Date:	7/15/09
Company:	MWH	Time:	1450	Company:	GEL	Time:	0900
3. Relinquished by:		Date:		4. Received by:		Date:	
Company:		Time:		Company:		Time:	

Geotracker EDF  
 Data Validation Package Level IV



Client: <u>SSFL</u>		SDG/ARCOC/Work Order: <del>235444</del> JT 1/4/10	
Received By: <u>JP</u>		Date Received: <u>7/15/09</u>	
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?		<input checked="" type="checkbox"/>	Maximum Counts Observed*: <u>40 cpm</u>
Classified Radioactive II or III by RSO?		<input checked="" type="checkbox"/>	
COC/Samples marked containing PCBs?		<input checked="" type="checkbox"/>	
Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	Hazard Class Shipped: _____ UN#: _____
Samples identified as Foreign Soil?		<input checked="" type="checkbox"/>	

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken    damaged container    leaking container    other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?	<input checked="" type="checkbox"/>			60 ice bags    blue ice    dry ice    none    other (describe)
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4	Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken    damaged container    leaking container    other (describe)
5	Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7	Are Encore containers present?			<input checked="" type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			

Comments: Fed Ex 9457 3158 0710




Date: 1/4/10

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  
Laboratory GEL Laboratories, LLC

Phone: 843-769-7388  
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
MWHSV200 90714_00	LFBS0214S001, LFBS0215S001	7/14/09		Change sample IDs from ENBS0097S001, and ENBS0098S001
MWHSV200 90714_00	LFBS0214S001, LFBS0215S001	7/14/09		Add all additional metals by 6020 that can be found through initial analysis

The reason for these changes:

*Incorrectly marked on COC form*

*Lack of sample volume*

*Change in analytical request*

*Other:*

_____
_____
X
_____
_____

Thank you



# CHAIN OF CUSTODY RECORD

COC #:

MWHSV20090714\_00

Page: 1 of 2

Customer Information			Project Information			Requested Analyses			Instructions/TAT			
Site:	SSFL	Client Name:	Boeing	Collector:	S. Valenzuela	Boiling PM:						
Company:	MWH	Sampling Event:	ISRA Sampling, June 2009	Contact #:								
Report to:	Sarah Von Raesfeld	Project Number:	1891614.054521									
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl									
	Suite 600	PM Phone #:	(925) 627-4627									
	Walnut Creek	Field Contact:	Shelby Valenzuela									
	CA	Field Contact #:	(626) 255-0503									
	94596	Lab Name:	GEL Laboratories, LLC									
Email:	sarah.vonraesfeld@mwhglobal.com	Lab Contact:	Jackie Trudell									
	sean.leffler@mwhglobal.com	Lab Address:	2040 Savage Road									
		Lab Phone:	Charleston, SC 29407									
			(843) 769-7388									
Sample Name	Matrix	Date	Time	No. of Containers								
B1BS0081AS001	Soil	7/14/2009	12:29	1	D2216 Moisture Soil	10						
EBQW2220	Water	7/14/2009	13:16	3	Metals 6020 Cu Water	10	10					
ENBS00979604-LFB50245001-20	Soil	7/14/2009	11:28	1	Metals 6020 Cd Water	10	10					
ENBS00989604-LFB502155001-20	Soil	7/14/2009	11:37	1	Metals 6020 Soil Cadmium	10	10					
FBQW2235	Water	7/14/2009	13:20	3	Metals 6020 Soil Arsenic	10	10					
HZBS0130S001	Soil	7/14/2009	8:22	1	Metals 6020 Soil Lead	10	10					
HZBS0132S001	Soil	7/14/2009	8:31	1	Metals 6020 Soil Zinc	10	10					
HZBS0134S001	Soil	7/14/2009	8:39	1	Metals 6020 Soil Copper	10	10					
HZBS0136S001	Soil	7/14/2009	8:55	1	Metals 6020 Water Arsenic	10	10					
HZBS0138S001	Soil	7/14/2009	9:02	1	Metals 6020 Water Lead	10	10					
				1. Relinquished by:		Date:		3. Relinquished by:		Date:		
				<i>[Signature]</i>		7/14/09		<i>[Signature]</i>		7/15/09		
				Company:		MWH		Company:		GEL		
				Time:		1450		Time:		0900		
				2. Received by:		Date:		4. Received by:		Date:		
				<i>[Signature]</i>		7/14/09		<i>[Signature]</i>		7/15/09		
				Company:		MWH		Company:		GEL		
				Time:		1450		Time:		0900		
				3. Relinquished by:		Date:		4. Received by:		Date:		
				<i>[Signature]</i>		7/14/09		<i>[Signature]</i>		7/15/09		
				Company:		MWH		Company:		GEL		
				Time:		1450		Time:		0900		

Comments:  Geotracker EDF  Data Validation Package  Level IV

05SL 1/4/10



# CHAIN OF CUSTODY RECORD

COC #:

MWHSV20090714\_00

Page: 2 of 2

Customer Information			Project Information			Requested Analyses			Instructions/TAT			
Site:	SSFL	Client Name:	Boeing	Collector:	S. Valenzuela				Boeing PM:			
Company:	MWH	Sampling Event:	ISRA Sampling, June 2009	Contact #:								
Report to:	Sarah Von Raesfeld	Project Number:	1891614.054521									
Address:	2121 N. California Blvd	Project Manager:	Alex Fischl									
	Suite 600	PM Phone #:	(925) 627-4627									
	Walnut Creek	Field Contact:	Shelby Valenzuela									
	CA	Field Contact #:	(626) 255-0503									
	94596	Lab Name:	GEL Laboratories, LLC									
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Trudell									
	sean.teffler@mwhglobal.com	Lab Address:	2040 Savage Road									
		Lab Phone:	Charleston, SC 29407									
			(843) 769-7388									
Sample Name	Matrix	Date	Time	No. of Containers							Comments	
HZBS0140S001	Soil	7/14/2009	9:17	1								
HZBS0142S001	Soil	7/14/2009	9:32	1								
HZBS0144S001	Soil	7/14/2009	9:37	1								
HZBS0145S001	Soil	7/14/2009	9:47	1								
					D2216 Moisture Soil							
					Metals 6020 Cd Water							
					Metals 6020 Cu Water							
					Metals 6020 Soil Arsenic							
					Metals 6020 Soil Cadmium							
					Metals 6020 Soil Copper							
					Metals 6020 Soil Lead							
					Metals 6020 Soil Zinc							
					Metals 6020 Water Arsenic							
					Metals 6020 Water Lead							
					Metals 6020 Zn 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 below are Turn Around Times.

1. Relinquished by:		Date:	7/14/09	2. Received by:		Date:	7/15/09
Company: MWH		Time:	1450	Company: GEL		Time:	0900
3. Relinquished by:		Date:		4. Received by:		Date:	
Company:		Time:		Company:		Time:	

Comments:  Geotracker EDF  Data Validation Package  Level IV