

August 15, 2013

Mr. Weiquan Dong, PE  
Bureau of Corrective Actions, Special Projects Branch  
Nevada Division of Environmental Protection  
2030 E. Flamingo Rd., Suite 230  
Las Vegas, Nevada 89119

**Re: Soil Sampling Results to Evaluate Potential Impacts to Shallow Soil in the Area of the March 22, 2013 Sludge Release from Fluidized Bed Reactor (FBR) Filter Press Nevada Environmental Response Trust Site Henderson, Nevada**

Dear Mr. Dong:

On behalf of Veolia Water North America (Veolia), a former contractor for the Nevada Environmental Response Trust (NERT), ENVIRON International Corporation (ENVIRON) is pleased to submit this report summarizing the soil sampling performed as a follow-up to ENVIRON's previous *Report of Sludge Release from Fluidized Bed Reactor (FBR) Filter Press*, dated May 10, 2013 (Attachment A), which described the sludge release, measures taken to clean up the spilled sludge, and preventive and corrective actions taken. The previous letter report also recommended soil sampling to evaluate potential impacts to shallow soil in the area of the sludge release.

This letter report presents a summary of the soil sampling that occurred on July 17, 2013. Analytical data compared to the Soil Remediation Goals (SRGs) is presented in Table 1. The locations of soil samples and results are shown on Figure 1. The laboratory analytical report is included in Attachment B.

## Soil Sampling Procedures

Prior to work beginning, a site-specific Health and Safety Plan (HASP) was prepared to address any potential health and safety concerns related to site or chemical conditions. The proposed locations for the soil samples were outlined in the *Report of Sludge Release from Fluidized Bed Reactor (FBR) Filter Press* dated May 10, 2013 (Attachment A), and were selected based on the flow path of the released sludge. Due to the shallow nature of the samples being collected, a hand auger was selected as the appropriate sampling tool. All work was conducted in conformance with the Site Management Plan (SMP) dated May 2012.

Before collecting samples, locations were confirmed in the field and the hand auger was decontaminated by scrubbing with a Liquinox® solution, rinsing with lab-provided deionized water, and allowing to dry completely. Samples were collected from two depths at each of six locations and the hand auger was decontaminated between each sample depth and location. Shallow samples were collected from less than 6 inches below ground surface (bgs) and a deeper sample was collected from between 6 and 12 inches bgs at each location.

Immediately after the samples were collected, they were placed in a sample refrigerator under the supervision of Veolia until a lab-provided courier arrived. Upon courier arrival, the samples were transferred from the sample refrigerator to an iced cooler and the chain of custody was signed over to the laboratory.

The sample boreholes were abandoned by backfilling with the removed soil, and the decontamination water was disposed of into the on-site GW-11 pond.

### Soil Analytical Results

Soil sampling was completed on July 17, 2013. ENVIRON collected shallow soil samples at two depths from five locations (SR-01 through SR-05) along the path of the release and from one location outside the flow path (SR-06) (Figure 1). The shallow soil samples (i.e., 0 to 6 inches bgs) from the five locations along the path of the sludge release were analyzed for the compounds detected in the sludge release sample, which was collected at the time of the release, above the SRGs (i.e., arsenic, benzo(a)pyrene, and dibenz(a,h)anthracene). The samples were analyzed by TestAmerica, Inc. in Irvine, California. The results compared to SRGs are shown in Table 1.

The deeper samples (i.e., 6 to 12 inches bgs), as well as both samples from the location outside of the sludge flow path (SR-06), were held for analysis pending the results of the shallow soil samples.

- Arsenic was detected in soil samples SR-01 and SR-02 at concentrations of 4.6 milligrams per kilogram (mg/kg) and 3.1 mg/kg, respectively. The sludge release sample from March 22, 2013, had a concentration of 320 mg/kg. The site-specific SRG for arsenic is 7.2 mg/kg.
- Benzo(a)pyrene was detected in soil samples SR-02 and SR-04 at concentrations of 0.007 mg/kg and 0.099 mg/kg, respectively. The sludge release sample from March 22, 2013, had a concentration of 0.27 mg/kg. The SRG for benzo(a)pyrene is 0.234 mg/kg.
- Dibenz(a,h)anthracene was detected in soil sample SR-04 at a concentration of 0.0092 mg/kg. The sludge release sample from March 22, 2013, had a concentration of 0.41 mg/kg, and the SRG for dibenz(a,h)anthracene is 0.234 mg/kg.

### Evaluation and Conclusions

The results of the shallow soil samples indicate there were no impacts above the SRGs to the shallow soil from the sludge release. No further analysis or sampling is recommended at this time.

Should you have any questions concerning this correspondence, please contact Kimberly Kuwabara at (510) 420-2525 or [kkuwabara@environcorp.com](mailto:kkuwabara@environcorp.com). Thank you.

Sincerely,



John M. Pekala, PG  
Senior Manager  
Nevada CEM 2347, exp. 9/20/2014



Kimberly Kuwabara, MS  
Senior Manager  
Nevada CEM 2353, exp. 3/20/2015

cc. Cliff Lawson, Bureau of Water Pollution Control, NDEP  
Joe Maez, Bureau of Water Pollution Control, NDEP  
Greg Lovato, Bureau of Corrective Actions, NDEP

James Dotchin, Bureau of Corrective Actions, NDEP  
Nevada Environmental Response Trust  
Tanya O'Neill, Foley and Lardner LLP  
Sachin Chawla, Veolia Water North America  
Steve Kubacki, Veolia Water North America  
Allan DeLorme, ENVIRON International Corporation

Attachments

Table 1: Sludge Release Sample and Follow-up Soil Sample Results Compared to Soil Remediation Goals (SRGs) <sup>1</sup>							
Constituents <sup>2</sup>	SRGs	Sludge Release Sample 3/22/2013	SR-01	SR-02	SR-03	SR-04	SR-05
			0.0 - 0.5 ft bgs 7/17/2013	0.0 - 0.5 ft bgs 7/17/2013	0.0 - 0.5 ft bgs 7/17/2013	0.0 - 0.5 ft bgs 7/17/2013	0.0 - 0.5 ft bgs 7/17/2013
<b>PAHs</b>							
Benzo(a)pyrene	0.234	<b>0.27</b>	ND<0.002	0.007 J	ND<0.002	0.099	ND<0.002
Dibenz(a,h)anthracene	0.234	<b>0.41</b>	ND<0.0025	ND<0.0025	ND<0.0025	0.0092 J	ND<0.0025
<b>Metals</b>							
Arsenic	7.2 <sup>3</sup>	<b>320</b>	4.6	3.1 J	ND<4.1	ND<4.0	ND<4.0

**Notes:**

All results in mg/kg

ft bgs = feet below ground surface

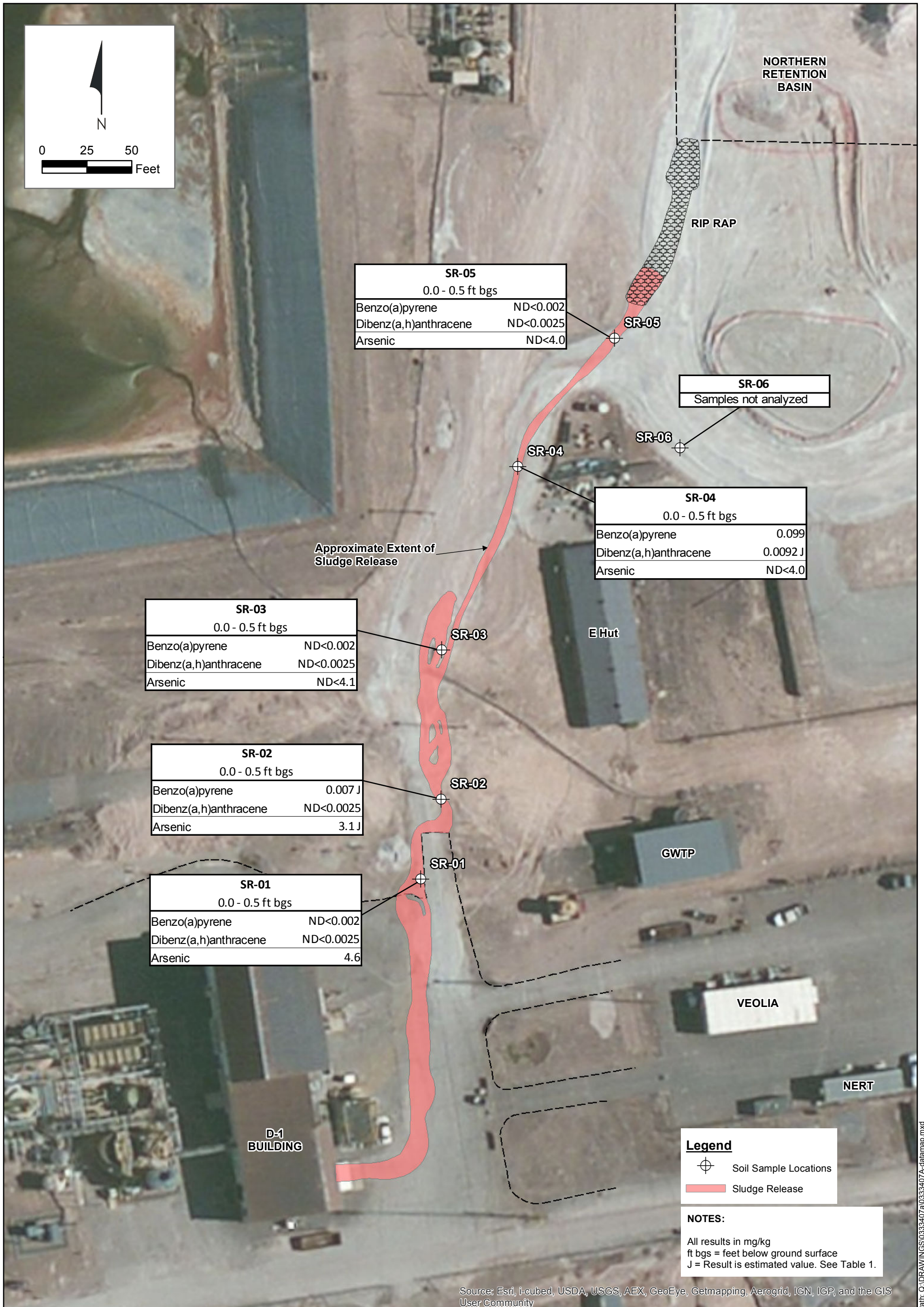
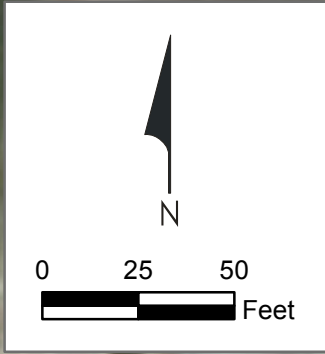
ND = Not detected

J = Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

<sup>1</sup> SRGs consist of Nevada Division of Environmental Protection worker basic comparison levels , or modified site-specific remediation goals.

<sup>2</sup> Results in bold exceed the SRGs.

<sup>3</sup> Indicates a site-specific value.



SR-05	
0.0 - 0.5 ft bgs	
Benzo(a)pyrene	ND<0.002
Dibenz(a,h)anthracene	ND<0.0025
Arsenic	ND<4.0

SR-06	
Samples not analyzed	

SR-04	
0.0 - 0.5 ft bgs	
Benzo(a)pyrene	0.099
Dibenz(a,h)anthracene	0.0092 J
Arsenic	ND<4.0

SR-03	
0.0 - 0.5 ft bgs	
Benzo(a)pyrene	ND<0.002
Dibenz(a,h)anthracene	ND<0.0025
Arsenic	ND<4.1

SR-02	
0.0 - 0.5 ft bgs	
Benzo(a)pyrene	0.007 J
Dibenz(a,h)anthracene	ND<0.0025
Arsenic	3.1 J

SR-01	
0.0 - 0.5 ft bgs	
Benzo(a)pyrene	ND<0.002
Dibenz(a,h)anthracene	ND<0.0025
Arsenic	4.6

Legend	
	Soil Sample Locations
	Sludge Release

**NOTES:**  
 All results in mg/kg  
 ft bgs = feet below ground surface  
 J = Result is estimated value. See Table 1.

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Path: C:\DRAWINGS\0333407A\0333407A-datamap.mxd

**Attachment A**

**Letter Report of Sludge Release from Fluidized Bed Reactor (FBR) Filter Press  
May 10, 2013**

May 10, 2013

NPDES Compliance Coordinator  
Nevada Division of Environmental Protection  
Bureau of Water Pollution Control  
901 South Stewart Street, Suite 4001  
Carson City, Nevada 89701-5249

**Re: Report of Sludge Release from Fluidized Bed Reactor (FBR) Filter Press  
Nevada Environmental Response Trust Site; Henderson, NV  
NPDES Permit NV0023060**

Dear NPDES Compliance Coordinator:

The Nevada Environmental Response Trust (NERT) maintains NPDES Permit NV0023060 for discharge of treated water to the Las Vegas Wash, as part of their on-going effort to capture and treat groundwater containing perchlorate and chromium in the Henderson area. Per Section II.A.3., *Noncompliance, Unauthorized Discharge, Bypassing and Upset*, of the permit, ENVIRON International Corporation (ENVIRON), on behalf of NERT, called the NDEP Spill Reporting Hotline on March 22, 2013 to report a release of sludge that is generated in the Fluidized Bed Reactor (FBR) process, a component part of the treatment plant designed to biologically remove perchlorate. The release occurred on Friday, March 22, 2013 during dewatering (via filter press) of the sludge in preparation for off-site disposal. The sludge flowed north out of the D-1 building on to soil and pavement in the vicinity of the E Hut. Sludge was removed from the inside of the D-1 building using a vacuum truck and from outside paved areas using shovels, a pressure washer, and a shop vacuum. Sludge was removed from soil with shovels (no soil excavation was conducted). The sludge removed from inside the D-1 building and the ground surface was placed in a bin for off-site disposal at Republic Services Apex Landfill. This correspondence serves as written notification of the leak, which is detailed below.

Per Section II.A.3.b. of the permit, the written report shall include the following information:

i. Time and date of discharge

At approximately 2:30 AM on Friday March 22, 2013, an operator for Veolia Water North America (Veolia) started dewatering of approximately 5,000 gallons of sludge from one of the FBR unit's filter presses in the D-1 Building. The operator returned at 3:20 AM after collecting the daily treated effluent sample and observed the sludge coming out of the D-1 Building.

ii. Exact location and estimated amount of discharge

The sludge release occurred at the southeast corner of the D-1 Building and flowed north toward the E Hut at the NERT site in Henderson, Nevada. The location and extent of the leak is shown on the attached map (Figure 1). Most of the sludge was contained in a bin and concrete containment area, but a portion of the volume, estimated at 500 to 700 gallons, was released to soil and pavement.

iii. Flow path and any bodies of water which the discharge reached

The leaked sludge flowed on asphalt and then on an unpaved surface for approximately 400 feet to the north of the D-1 building (Figure 1). On the unpaved surfaces, water from the sludge infiltrated into the ground surface and sludge solids accumulated on soil in the area west and north of the E Hut. The pavement outside of the D-1 Building was stained as a result of the release. The discharge entered a rip rap channel that drains to the northeastern retention basin, but did not flow onto any roadway or into any body of water. The leaked sludge remained on NERT property.

iv. The specific cause of the discharge

The sludge release was caused when the operator closed the door of the filter press unit after beginning dewatering, but failed to ensure that the door was secure. The cause of the release was operator error, not malfunctioning equipment.

v. The preventive and/or corrective actions taken.

A sample of the sludge was collected and sent to a laboratory for analysis of the constituents listed in Table 4 of the NERT Site Management Plan (SMP), with the exception of asbestos. The analytical laboratory reports are provided on a CD with this report. The sample results were screened against NDEP's Basic Comparison Levels (BCLs) and site-specific values, collectively called the Soil Remediation Goals (SRGs). In addition, the sample results were compared to sludge data from the current quarter and previous two quarters (collected per the NPDES permit) (Table 1). A limited number of the analytes were detected above the screening levels. Arsenic was detected in the sample of sludge that leaked from the filter press at 320 milligrams per kilogram (mg/kg), which exceeds the site-specific value of 7.2 mg/kg, but is consistent with historical sludge results (range of 160 to 560 mg/kg). All results of Toxicity Characteristic Leaching Procedure (TCLP) analysis on NPDES quarterly samples from the past 3 quarters, including arsenic, were below hazardous waste screening criteria (Table 2). In addition, two polyaromatic hydrocarbon (PAH) constituents, benzo(a)pyrene and dibenz(a,h)anthracene, were detected at concentrations slightly above their respective BCLs. A number of other volatile and semi-volatile organic compounds, PAHs, dioxins/furans, pesticides, metals, and salts were detected in the sludge sample; however, none were above screening criteria.

Based on the sludge analytical results, additional soil sampling is warranted to evaluate potential impacts to shallow soil in the area of the sludge release. The proposed additional sampling would include collection of shallow (less than 6 inches deep) soil samples from five locations along the path of the release (Figure 1). Additional vertical (deeper) samples will be collected concurrently. Shallow soil samples will be analyzed for the compounds detected in the sludge above screening criteria (i.e., arsenic, benzo(a)pyrene, and dibenz(a,h)anthracene). The results will be compared to each compound's respective SRG. If any reported concentrations for the shallow samples exceed a SRG, the deeper sample at that location will be analyzed to further vertically delineate the soil contamination. If all reported concentrations for the shallow samples are



below the SRGs, the deeper samples will not be analyzed. A small portion of the sludge release area overlaps with excavation control areas (ECAs) to the west/northwest of the E Hut. All work associated with the sludge release will be conducted in conformance with the SMP. The results of this investigation will be submitted to Mr. Weiquan Dong of the NDEP Bureau of Corrective Actions for review.

Future preventative action will include inspection of the filter press during dewatering prior to leaving the building.

Should you have any questions concerning this correspondence, please contact Kimberly Kuwabara at (510) 420-2525 or kkuwabara@environcorp.com. Thank you.

Sincerely,



John M. Pekala, PG  
Senior Manager  
Nevada CEM 2347, exp. 9/20/2014



Kimberly Kuwabara, MS  
Senior Manager  
Nevada CEM 2353, exp. 3/20/2015

cc. Cliff Lawson, Bureau of Water Pollution Control, NDEP  
Joe Maez, Bureau of Water Pollution Control, NDEP  
Greg Lovato, Bureau of Corrective Actions, NDEP  
Shannon Harbour, Bureau of Corrective Actions, NDEP  
James Dotchin, Bureau of Corrective Actions, NDEP  
Weiquan Dong, Bureau of Corrective Actions, NDEP  
Nevada Environmental Response Trust  
Tanya O'Neill, Foley and Lardner LLP  
Sachin Chawla, Veolia Water North America  
Steve Kubacki, Veolia Water North America  
Allan DeLorme, ENVIRON International Corporation

Attachments

**Table 1: Select FBR Biosolids Sample Results Compared to Soil Remediation Goals (SRGs)<sup>1</sup>**

Constituents <sup>2</sup>	Sludge Release Sample	2nd Quarter 2013	1st Quarter 2013	4th Quarter 2012	SRGs
	(3/22/2013)	(04/15/2013)	(01/07/2013)	(10/01/2012)	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<b>VOCs</b>					
2-Butanone	7.1	NA	NA	NA	34,092
2-Hexanone	0.045	NA	NA	NA	1,930
4-Methyl-2-pentanone	0.074	NA	NA	NA	17,196
Acetone	24	NA	NA	NA	100,000
Carbon disulfide	2	NA	NA	NA	721
Ethylbenzene	0.038	NA	NA	NA	19.6
Tetrachloroethene	0.027	NA	NA	NA	3.28
Toluene	0.033	NA	NA	NA	521
Trichloroethene	8.8J	NA	NA	NA	5.49
1,2,3-Trichloropropane	ND**	NA	NA	NA	0.106
Naphthalene	ND<0.005	NA	NA	NA	15.6
m/p xylenes	0.15	NA	NA	NA	214
o-xylene	0.043	NA	NA	NA	282
Total xylenes	0.19	NA	NA	NA	214
<b>SVOCS</b>					
4-methylphenol*	15	NA	NA	NA	3,420
<b>PAHs</b>					
Benzo(b)fluoranthene	0.31	NA	NA	NA	2.34
Anthracene	0.16	NA	NA	NA	9,060
Benzo(a)anthracene	0.073	NA	NA	NA	2,344
Benzo(a)pyrene	<b>0.27</b>	NA	NA	NA	0.234
Benzo(g,h,i)perylene	1.20	NA	NA	NA	34,100
Benzo(k)fluoranthene	0.23	NA	NA	NA	23
Chrysene	0.056J	NA	NA	NA	234
Dibenz(a,h)anthracene	<b>0.41</b>	NA	NA	NA	0.234
Fluoranthene	0.08	NA	NA	NA	24,400
Indeno(1,2,3,c,d)pyrene	0.61	NA	NA	NA	2
Phenathrene	0.07	NA	NA	NA	25
Pyrene	0.10	NA	NA	NA	19,300
<b>Dioxins/Furans</b>					
TCDD TEQ <sup>3</sup>	0.0000014	NA	NA	NA	0.0027 <sup>a</sup>
<b>Pesticides</b>					
Alpha-BHC	0.23	ND<0.074	0.17	0.29	270
Beta-BHC	0.25	ND<0.074	0.31	0.49	54
Delta-BHC	0.13	ND<0.074	0.38	0.18	270
Gamma-Chlordane	0.11	ND<0.074	0.013	0.028	No BCL
Endosulfan I	ND<0.086	75 J	ND<0.0045	ND<0.0045	4,104
<b>Metals</b>					
Arsenic	<b>320</b>	<b>160</b>	<b>560</b>	<b>440</b>	7.2 <sup>a</sup>
Barium	32.2	NA	NA	NA	100,000
Chromium	350	180	790	600	100,000
Cobalt	76.3	NA	NA	NA	337
Copper	200	120	250	220	42,200
Lead	0.450J	ND<1.2	ND<1.5	ND<1.5	800 <sup>a</sup>
Magnesium	1,880	NA	NA	NA	100,000
Manganese	56.1	NA	NA	NA	24,900
Molybdenum	920	590	1,800	1,900	5,680
Nickel	35	16	53	47	21,800
Selenium	86	44	110	89	5,680
Zinc	300	170	600	420	100,000
<b>Other</b>					
Ammonia by N	4,300	NA	NA	NA	100,000
Chloride	5,300	NA	NA	NA	No BCL
Fluoride	30	NA	NA	NA	41,000
Nitrate as N	2.5J	NA	NA	NA	100,000
Sulfate	11,000	NA	NA	NA	No BCL

Table 1: Select FBR Biosolids Sample Results Compared to Soil Remediation Goals (SRGs) <sup>1</sup>					
Constituents <sup>2</sup>	Sludge Release Sample (3/22/2013)	2nd Quarter 2013 (04/15/2013)	1st Quarter 2013 (01/07/2013)	4th Quarter 2012 (10/01/2012)	SRGs
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

Notes:

The sludge spill sample was also analyzed for PCBs, hexavalent chromium, mercury, cyanide, perchlorate, and sulfide. All results were ND. Only detected results for VOCs, SVOCs, PAHs, dioxins/furans, and OCPs are provided (non-detects not shown).

NA = Not analyzed

ND = Not detected

J = The analyte was either detected at or greater than the SQL and less than the MRL, or did not meet any of the required QC criteria.

<sup>1</sup> SRGs consist of NDEP worker BCLs, or modified site-specific remediation goals.

<sup>2</sup> Detected in at least one sample. Results in bold exceed the SRGs.

<sup>3</sup> TEQ = Toxicity Equivalent Quantity, based on WHO 2005 TEFs for the 17 dioxin and furan congeners.

<sup>a</sup> Indicates a site-specific value.

\* Cannot be separated from 3-methylphenol

\*\*Laboratory reported that the VOC 1,2,3-trichloropropane was not detected, although the result was semi-quantitative.

**Table 2: Historical Toxicity Characteristic Leaching Procedure (TCLP) FBR Biosolids Sample Results**

TCLP	Sludge Spill Sample	2nd Quarter 2013	1st Quarter 2013	4th Quarter 2012
	(3/22/2013)	(04/03/2013) <sup>a</sup>	(01/07/2013) <sup>a</sup>	(10/01/2012) <sup>a</sup>
	mg/L	mg/L	mg/L	mg/L
Arsenic	NA	0.80	ND<0.05	0.06
Barium	NA	0.02	0.03	0.05
Cadmium	NA	ND<0.01	0.01	0.05
Chromium	NA	0.02	0.03	0.04
Lead	NA	0.41	ND<0.05	ND<0.05
Selenium	NA	ND<0.05	ND<0.05	ND<0.05
Silver	NA	ND<0.05	ND<0.05	ND<0.05
Mercury	NA	ND<0.001	ND<0.002	ND<0.002

NA = Not analyzed

ND = Not detected

<sup>a</sup> Samples for TCLP analysis were collected separately from standard quarterly sludge samples and were analyzed by Silver State Laboratories.



Path: H:\Petromane\NERT\GIS\2132100FA\F112132100FA\F11-PropSoilMap1.mxd

750 Royal Oaks Drive, Suite 100  
Monrovia, California 91016-3629  
Tel: (626) 386-1100  
Fax: (626) 386-1101  
1 800 566 LABS (1 800 566 5227)

## Laboratory Report

for

Environ International Corp.  
1702 E. Highland Ave.  
Suite 412  
Phoenix, AZ 85016  
Attention: John M. Pekala, P.G.  
Fax: 602.734.7701

Date of Issue

04/17/2013



EUROFINS EATON  
ANALYTICAL

LXG: Linda Geddes  
Project Manager



01114CA

Report: 429486  
Project: CWA-RCRA  
Group: TABLE 4 FBR SOLIDS

Laboratory certifies that the test results meet all **TNI NELAP** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.

## STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Mississippi	Certified
Alaska	CA00006	Montana	Cert 0035
Arizona	AZ0778	Nevada	CA00006-2012-1
Arkansas	Certified	New Hampshire	2959-11
California – NELAP	01114CA	New Jersey	CA 008
California – ELAP	1422	New Mexico	Certified
Colorado	Certified	New York	11320
Connecticut	PH-0107	North Carolina	06701
Delaware	CA 006	North Dakota	R-009
Florida	E871024	Oregon	CA 200003-011
Georgia	947	Pennsylvania	68-565
Guam	12-006r	Rhode Island	LAO00326
Hawaii	Certified	South Carolina	87016001
Idaho	Certified	South Dakota	Certified
Illinois	200033	Tennessee	TN02839
Indiana	C-CA-01	Texas	T104704230-12-4
Kansas	E-10268	Utah	Mont-1
Kentucky	90107	Vermont	VT0114
Louisiana	LA130008	Virginia	00210
Maine	CA0006	Washington	C383
Maryland	224	West Virginia	9943 C
Commonwealth of Northern Marianas Is.	MP0004	Wisconsin	998316660
Massachusetts	M-CA006	Wyoming	8TMS-L
Michigan	9906	EPA Region 5	Certified

### Acknowledgement of Samples Received

Addr: **Environ International Corp.**  
1702 E. Highland Ave.  
Suite 412  
Phoenix, AZ 85016

Attn: John M. Pekala, P.G.  
Phone: 602.734.7710

Client ID: ENVIRON-NVTRUST  
Folder #: 429486  
Project: CWA-RCRA  
Sample Group: TABLE 4 FBR SOLIDS

Project Manager: Linda Geddes  
Phone: (626) 386-1163

The following samples were received from you on **March 27, 2013**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical.

Sample #	Sample ID	Sample Date
201303270294	FBR BIOLOGICAL SOLIDS	03/22/2013 1036
	@PCB	@PEST
	Cadmium Subbed	Chromium Subbed
	Mercury Subbed	Molybdenum Subbed
	Percent Moisture	Selenium Subbed
	Zinc Subbed	@7199
	@8270_SIM_Solid	@8270EDD
	@ANIONS BY IC_Subbed	Ammonia-N Solid_Emax
	PH Solid Subbed	Sulfide (Subcontracted)
		Arsenic Subbed
		Copper Subbed
		Nickel Subbed
		Silver Subbed
		@8260EDD
		@8290_Solid_PM
		Perchlorate Solid Subbed
		Total Cyanide

#### Test Description

- @PCB -- PCBs by 8082
- @PEST -- Pesticides by 8081A
- @7199 -- Hexavalent Chromium
- @8260EDD -- Volatile Organic Compounds by EPA 8260B
- @8270EDD -- 8270
- @8290\_Solid\_PM -- Dioxin/Furan - MDL and RL reporting
- @ANIONS BY IC\_Subbed -- @ANIONS BY IC\_Subbed





## Analytical Parameters for FBR SLUDGE Sample

Metals by EPA Methods 6010 and 6020

Mercury by EPA Method 7470/7471A

Hexavalent chromium by EPA Method 7196A or 7199/3060A

Cyanide by EPA Method 9012

Perchlorate by EPA Method 314.0 or 6850

VOC's by EPA Method 8260

SVOC's (incl. Hexachlorobenzene and Benzo(a)Pyrene) by EPA Method 8270

PAHs by EPA Method 8310 or 8270

Dioxins/Furans by EPA Method 8290

PCBs by EPA Method 8082

OCPs by EPA Method 8081A

pH by EPA Method 9045

Inorganic Anions (bromide, chloride, Fluoride, nitrate as nitrate, sulfate, nitrite as N, nitrate as N, and orthophosphate as phosphate) by EPA Method 9056

Sulfide by EPA Method 9034

From: (702) 566-6001  
Russell Speckin  
Veolia Water NA West LLC  
510 Fourth St.

Origin ID: LASA

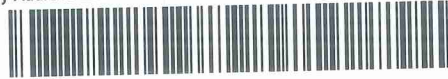


J13111302120326

Henderson, NV 89015

Ship Date: 22MAR13  
ActWgt: 9.0 LB  
CAD: 5135271/INET3370

Delivery Address Bar Code



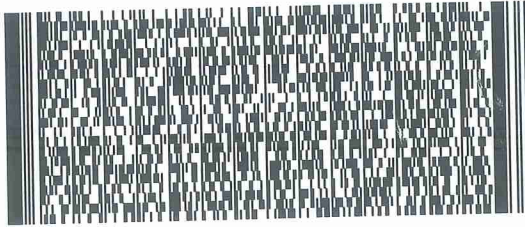
SHIP TO: (626) 568-6400  
**Linda Geddes**  
Eurofins Eaton Analytical  
750 ROYAL OAKS DR  
STE 100  
MONROVIA, CA 91016

BILL SENDER

Ref # FBR SLUDGE  
Invoice #  
PO #  
Dept #

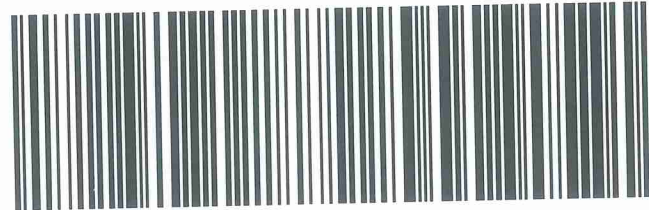
SATURDAY 12:00P  
PRIORITY OVERNIGHT

TRK# 7993 4989 8082  
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**X0 WHPA**

91016  
CA-US  
BUR



518G2/DCF8/B3AB

April 17, 2013

John M. Pekala, P.G.  
Environ International Corp.  
1702 E. Highland Ave.  
Suite 412  
Phoenix, AZ 85016

Sample receipt: The samples arrived at Eurofins Eaton Analytical, Monrovia, CA 91016 on March 27, 2013 with proper chain of custody. All containers were received without any visible signs of tampering or breakage at proper temperature. Samples are identified on the acknowledgement, which is part of the report package, along with the chain of custody.

Case Narrative:

For the Eurofins Eaton Analytical data the following issues were observed:

Report revised to include J flags, corrected 8290 results as well as changing units for benzo(b)fluoranthene and correcting the hexavalent chromium data. The original hexavalent chromium data was a spike result, not the sample result.

LXG 04/17/13

Other Observations:

There were no other observations on this sample set.

Sincerely,



Linda Geddes  
Project Manager

750 Royal Oaks Drive, Suite 100  
Monrovia, California 91016-3629  
Tel: (626) 386-1100  
Fax: (626) 386-1101  
1 800 566 LABS (1 800 566 5227)

Environ International Corp.  
John M. Pekala, P.G.  
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Suite 412  
Phoenix, AZ 85016

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**Folder Comments**

Analytical results for PCDDs and PCDFs by 8290 are submitted by Pace Analytical Services, Minneapolis, MN

Analytical results for Metals, Moisture, 8260, 8270 SIM, 8270, Anions, Metals, Perchlorate, Sulfide and Cyanide are submitted by Emax Laboratories, Inc. Torrance, CA

# - 2-Butanone, Acetone and Carbon Disulfide in 8260 was analyzed on 4/1/13 with a 45 fold dilution

Report revised to include J flags, corrected 8290 results as well as changing units for benzo(b)fluoranthene and correcting the hexavalent chromium data. The original hexavalent chromium data was a spike result, not the sample result.

LXG 04/17/13

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**Laboratory Data  
 Report: 429486**

**Environ International Corp.**

John M. Pekala, P.G.  
 1702 E. Highland Ave.  
 Suite 412  
 Phoenix, AZ 85016

Samples Received on:  
 03/27/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	SQL	Dilution	
<b>FBR BIOLOGICAL SOLIDS (201303270294)</b>							<b>Sampled on 03/22/2013 1036</b>				
<b>SM 4500-S-2 F - Sulfide Subcontracted</b>											
	03/29/2013	17:03	(SM 4500-S-2 F)	Sulfide (Subcontracted)	ND	mg/kg	1.0	43	1.0	1	
<b>EPA 8260 - Volatile Organic Compounds by EPA 8260B</b>											
3/29/2013	03/29/2013	13:56	(EPA 8260)	1,1,1-Trichloroethane	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	1,1,2,2-Tetrachloroethane	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	1,1,2-Trichloroethane	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	1,1-Dichloroethane	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	1,1-Dichloroethene	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	1,2-Dichloroethane	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	1,2-Dichloropropane	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	2-Butanone (MEK)	7100	ug/kg		1899		45	
3/29/2013	03/29/2013	13:56	(EPA 8260)	2-Hexanone	45	ug/kg		41		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	4-methyl-2-Pentanone	74	ug/kg		41		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Acetone	24000	ug/kg		1899		45	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Benzene	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Bromodichloromethane	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Bromoform	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Bromomethane	ND	ug/kg		41		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Carbon disulfide	2000	ug/kg		968		45	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Carbon Tetrachloride	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Chlorobenzene	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Chloroethane	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Chloroform	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Chloromethane	ND	ug/kg		41		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	cis-1,2-Dichloroethene	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	cis-1,3-Dichloropropene	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Dibromochloromethane	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Ethylbenzene	38	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	m,p-Xylenes	150	ug/kg		41		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Methyl Tert-butyl ether (MTBE)	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Methylene chloride	ND	ug/kg		41		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	o-Xylene	43	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Styrene	ND	ug/kg		20		1	
3/29/2013	03/29/2013	13:56	(EPA 8260)	Tetrachloroethene	27	ug/kg		20		1	

Sample Quantitation Limit (SQL) = MDL \* Dilution Factor.

Rounding on totals after summation.

(c) - Indicates calculated results.

J - The analyte was either detected at or greater than the SQL and less than the MRL, or did not meet any one of the required QC criteria.

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John M. Pekala, P.G.  
 1702 E. Highland Ave.  
 Suite 412  
 Phoenix, AZ 85016

Samples Received on:  
 03/27/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	SQL	Dilution
3/29/2013	03/29/2013	13:56	(EPA 8260)	Toluene	33	ug/kg		20		1
3/29/2013	03/29/2013	13:56	(EPA 8260)	Total xylenes	190	ug/kg		41		1
3/29/2013	03/29/2013	13:56	(EPA 8260)	trans-1,2-Dichloroethene	ND	ug/kg		20		1
3/29/2013	03/29/2013	13:56	(EPA 8260)	trans-1,3-Dichloropropene	ND	ug/kg		20		1
3/29/2013	03/29/2013	13:56	(EPA 8260)	Trichloroethene	8.8J	ug/kg		20		1
3/29/2013	03/29/2013	13:56	(EPA 8260)	Vinyl chloride	ND	ug/kg		20		1
3/29/2013	03/29/2013	13:56	(EPA 8260)	1,2-Dichloroethane-d4	96	%				1
3/29/2013	03/29/2013	13:56	(EPA 8260)	4-Bromofluorobenzene	145	%				1
3/29/2013	03/29/2013	13:56	(EPA 8260)	Toluene-d8	120	%				1
<b>EPA 8270C - 8270</b>										
3/29/2013	03/30/2013	13:26	(EPA 8270C)	1,2,4-Trichlorobenzene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	1,2-Dichlorobenzene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	1,3-Dichlorobenzene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	1,4-Dichlorobenzene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2,4,5-Trichlorophenol	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2,4,6-Trichlorophenol	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2,4-Dichlorophenol	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2,4-Dimethylphenol	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2,4-Dinitrophenol	ND	ug/kg	5.0	8500	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2,4-Dinitrotoluene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2,6-Dinitrotoluene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2-chloronaphthalene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2-chlorophenol	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2-methylnaphthalene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2-methylphenol	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2-nitroaniline	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2-nitrophenol	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	3,3-Dichlorobenzidine	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	3-nitroaniline	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	4,6-Dinitro-2-methylphenol	ND	ug/kg	5.0	8500	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	4-Bromophenylphenylether	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	4-Chloro-3-methylphenol	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	4-Chloroaniline	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	4-Chlorophenylphenylether	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	4-methylphenol	15000	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	4-Nitroaniline	ND	ug/kg	5.0	4267	15	3

Sample Quantitation Limit (SQL) = MDL \* Dilution Factor.

Rounding on totals after summation.

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**Laboratory Data  
 Report: 429486**
**Environ International Corp.**

John M. Pekala, P.G.  
 1702 E. Highland Ave.  
 Suite 412  
 Phoenix, AZ 85016

Samples Received on:  
 03/27/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	SQL	Dilution
3/29/2013	03/30/2013	13:26	(EPA 8270C)	4-Nitrophenol	ND	ug/kg	5.0	8500	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	acenaphthene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	acenaphthylene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	anthracene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	benzo(a)anthracene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	benzo(a)pyrene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	benzo(b)fluoranthene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	benzo(ghi)perylene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	benzo(k)fluoranthene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	bis(2-Chloroethoxy)methane	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	bis(2-chloroethyl)ether	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	bis(2-Chloroisopropyl)ether	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	bis(2-ethylhexyl)phthalate	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Butylbenzylphthalate	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Chrysene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	dibenzo(a,h)anthracene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	dibenzofuran	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Diethylphthalate	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Dimethylphthalate	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Di-N-butylphthalate	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Di-N-octylphthalate	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Fluoranthene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Fluorene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Hexachlorobenzene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Hexachlorobutadiene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Hexachlorocyclopentadiene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Hexachloroethane	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Indeno(1,2,3,c,d)Pyrene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Isophorone	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Naphthalene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Nitrobenzene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	N-nitroso-di-n-propylamine	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	N-nitroso-diphenylamine	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	pentachlorophenol	ND	ug/kg	5.0	8500	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Phenanthrene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Phenol	ND	ug/kg	5.0	4300	15	3

Sample Quantitation Limit (SQL) = MDL \* Dilution Factor.

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Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	SQL	Dilution
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Pyrene	ND	ug/kg	5.0	4300	15	3
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2,4,6-Tribromophenol	64	%				1
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2-Fluorobiphenyl	44	%				1
3/29/2013	03/30/2013	13:26	(EPA 8270C)	2-Fluorophenol	34	%				1
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Nitrobenzene-d5	44	%				1
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Phenol-d5	41	%				1
3/29/2013	03/30/2013	13:26	(EPA 8270C)	Terphenyl-d14	71	%				1
<b>EPA 8081A - Pesticides by 8081A</b>										
04/02/2013	05:45		(EPA 8081A)	4,4-DDD	ND	ug/kg		170		10
04/02/2013	05:45		(EPA 8081A)	4,4-DDE	ND	ug/kg		170		10
04/02/2013	05:45		(EPA 8081A)	4,4-DDT	ND	ug/kg		170		10
04/02/2013	05:45		(EPA 8081A)	Aldrin	ND	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Alpha-BHC	230	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Alpha-Chlordane	ND	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Beta-BHC	250	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Delta-BHC	130	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Dieldrin	ND	ug/kg		170		10
04/02/2013	05:45		(EPA 8081A)	Endosulfan I	ND	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Endosulfan II	ND	ug/kg		170		10
04/02/2013	05:45		(EPA 8081A)	Endosulfan sulfate	ND	ug/kg		170		10
04/02/2013	05:45		(EPA 8081A)	Endrin	ND	ug/kg		170		10
04/02/2013	05:45		(EPA 8081A)	Endrin Aldehyde	ND	ug/kg		170		10
04/02/2013	05:45		(EPA 8081A)	Endrin Ketone	ND	ug/kg		170		10
04/02/2013	05:45		(EPA 8081A)	Gamma-BHC	ND	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Gamma-Chlordane	110	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Heptachlor	ND	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Heptachlor Epoxide	ND	ug/kg		86		10
04/02/2013	05:45		(EPA 8081A)	Methoxychlor	ND	ug/kg		860		10
04/02/2013	05:45		(EPA 8081A)	Toxaphene	ND	ug/kg		2200		10
04/02/2013	05:45		(EPA 8081A)	Decachlorobiphenyl	50	%				1
04/02/2013	05:45		(EPA 8081A)	Tetrachloro-m-xylene	124	%				1
<b>EPA 6010 - Arsenic Subbed</b>										
04/02/2013	16:25		(EPA 6010)	Arsenic Subbed	320	mg/kg	2.2	0.46	2.0	1
<b>EPA 6010 - Cadmium Subbed</b>										
04/02/2013	16:25		(EPA 6010)	Cadmium Subbed	ND	mg/kg	0.55	0.46	0.50	1

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**Environ International Corp.**

John M. Pekala, P.G.  
 1702 E. Highland Ave.  
 Suite 412  
 Phoenix, AZ 85016

Samples Received on:  
 03/27/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	SQL	Dilution
<b>EPA 6010 - Chromium Subbed</b>										
	04/02/2013	16:25	(EPA 6010)	Chromium Subbed	350	mg/kg	1.1	0.46	1.0	1
<b>EPA 6010 - Copper Subbed</b>										
	04/02/2013	16:25	(EPA 6010)	Copper Subbed	200	mg/kg	1.1	0.46	1.0	1
<b>EPA 6010 - Molybdenum Subbed</b>										
	04/02/2013	16:25	(EPA 6010)	Molybdenum Subbed	920	mg/kg	2.8	0.46	2.6	1
<b>EPA 6010 - Nickel Subbed</b>										
	04/02/2013	16:25	(EPA 6010)	Nickel Subbed	35	mg/kg	1.1	0.46	1.0	1
<b>EPA 6010 - Selenium Subbed</b>										
	04/02/2013	16:25	(EPA 6010)	Selenium Subbed	86	mg/kg	2.8	0.46	2.6	1
<b>EPA 6010 - Silver Subbed</b>										
	04/02/2013	16:25	(EPA 6010)	Silver Subbed	ND	mg/kg	1.4	0.49	1.4	1
<b>EPA 6010 - Zinc Subbed</b>										
	04/02/2013	16:25	(EPA 6010)	Zinc Subbed	300	mg/kg	2.8	1.8	2.6	1
<b>EPA 7471A - Mercury Subbed</b>										
	04/03/2013	16:37	(EPA 7471A)	Mercury Subbed	ND	mg/kg	0.19	2.1	0.93	5
<b>Misc subcontracted work - Percent Moisture</b>										
	04/02/2013	16:25	(Misc subcontracted work)	Percent Moisture	77	%	1.0			1
<b>EPA 7199 - Hexavalent Chromium</b>										
	04/02/2013	15:53	(EPA 7199)	@7199	ND	mg/kg		768		100
<b>EPA 9014 - Total Cyanide Solid Subbed</b>										
	04/01/2013	18:56	(EPA 9014)	Total Cyanide	ND	mg/kg		4.3		1
<b>9045C - PH Solid</b>										
	03/28/2013	13:42	(9045C)	pH	5.86	pH				1
<b>EPA 8082 - PCBs by 8082</b>										
	04/01/2013	11:38	(EPA 8082)	PCB 1016	ND	ug/kg	20	220	20	1
	04/01/2013	11:38	(EPA 8082)	PCB 1016 Aroclor	ND	ug/kg	20	220	20	1
	04/01/2013	11:38	(EPA 8082)	PCB 1221 Aroclor	ND	ug/kg	20	220	20	1
	04/01/2013	11:38	(EPA 8082)	PCB 1232 Aroclor	ND	ug/kg	20	220	20	1
	04/01/2013	11:38	(EPA 8082)	PCB 1242 Aroclor	ND	ug/kg	20	220	20	1
	04/01/2013	11:38	(EPA 8082)	PCB 1248 Aroclor	ND	ug/kg	20	220	20	1
	04/01/2013	11:38	(EPA 8082)	PCB 1254 Aroclor	ND	ug/kg	20	220	20	1

Sample Quantitation Limit (SQL) = MDL \* Dilution Factor.

Rounding on totals after summation.

(c) - Indicates calculated results.

J - The analyte was either detected at or greater than the SQL and less than the MRL, or did not meet any one of the required QC criteria.

750 Royal Oaks Drive, Suite 100  
 Monrovia, California 91016-3629  
 Tel: (626) 386-1100  
 Fax: (626) 386-1101  
 1 800 566 LABS (1 800 566 5227)

**Environ International Corp.**

John M. Pekala, P.G.  
 1702 E. Highland Ave.  
 Suite 412  
 Phoenix, AZ 85016

Samples Received on:  
 03/27/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	SQL	Dilution
	04/01/2013 11:38		(EPA 8082)	PCB 1260 Aroclor	ND	ug/kg	20	220	20	1
	04/01/2013 11:38		(EPA 8082)	Decachlorobiphenyl	96	%				1
	04/01/2013 11:38		(EPA 8082)	Tetrachlorometaxylene	115	%				1
<b>EPA8290 - Dioxin/Furan - MDL and RL reporting</b>										
	04/02/2013 14:10		(EPA8290)	1,2,3,4,6,7,8-HpCDD	ND	ng/kg	1.0	5	1.0	1
	04/02/2013 14:10		(EPA8290)	1,2,3,4,6,7,8-HpCDF	6.9	ng/kg	0.64	5	0.64	1
	04/02/2013 14:10		(EPA8290)	1,2,3,4,7,8,9-HpCDF	2.7J	ng/kg	0.65	5	0.65	1
	04/02/2013 14:10		(EPA8290)	1,2,3,4,7,8-HxCDD	ND	ng/kg	0.83	5	0.83	1
	04/02/2013 14:10		(EPA8290)	1,2,3,4,7,8-HxCDF	2.4J	ng/kg	0.34	5	0.34	1
	04/02/2013 14:10		(EPA8290)	1,2,3,6,7,8-HxCDD	ND	ng/kg	0.56	5	0.56	1
	04/02/2013 14:10		(EPA8290)	1,2,3,6,7,8-HxCDF	1.6J	ng/kg	0.48	5	0.48	1
	04/02/2013 14:10		(EPA8290)	1,2,3,7,8,9-HxCDD	ND	ng/kg	0.58	5	0.58	1
	04/02/2013 14:10		(EPA8290)	1,2,3,7,8,9-HxCDF	ND	ng/kg	0.79	5	0.79	1
	04/02/2013 14:10		(EPA8290)	1,2,3,7,8-PeCDD	ND	ng/kg	0.32	5	0.32	1
	04/02/2013 14:10		(EPA8290)	1,2,3,7,8-PeCDF	1.6J	ng/kg	0.64	5	0.64	1
	04/02/2013 14:10		(EPA8290)	2,3,4,6,7,8-HxCDF	0.79J	ng/kg	0.51	5	0.51	1
	04/02/2013 14:10		(EPA8290)	2,3,4,7,8-PeCDF	1.1J	ng/kg	0.47	5	0.47	1
	04/02/2013 14:10		(EPA8290)	2,3,7,8-TCDD	ND	ng/kg	0.49	1	0.49	1
	04/02/2013 14:10		(EPA8290)	2,3,7,8-TCDF	1.6	ng/kg	0.31	1	0.31	1
	04/02/2013 14:10		(EPA8290)	OCDD	4.5J	ng/kg	1.6	10	1.6	1
	04/02/2013 14:10		(EPA8290)	OCDF	60	ng/kg	1.9	10	1.9	1
	04/02/2013 14:10		(EPA8290)	Total HpCDD	2.0J	ng/kg	1.0	5	1.0	1
	04/02/2013 14:10		(EPA8290)	Total HpCDF	11	ng/kg	0.65	5	0.65	1
	04/02/2013 14:10		(EPA8290)	Total HxCDD	ND	ng/kg	0.83	5	0.83	1
	04/02/2013 14:10		(EPA8290)	Total HxCDF	9.8	ng/kg	0.79	5	0.79	1
	04/02/2013 14:10		(EPA8290)	Total PeCDD	0.64J	ng/kg	0.32	5	0.32	1
	04/02/2013 14:10		(EPA8290)	Total PeCDF	13	ng/kg	0.64	5	0.64	1
	04/02/2013 14:10		(EPA8290)	Total TCDD	ND	ng/kg	0.49	1	0.49	1
	04/02/2013 14:10		(EPA8290)	Total TCDF	23	ng/kg	0.31	1	0.31	1
<b>EPA8270 -</b>										
	03/30/2013 01:21		(EPA8270)	acenaphthylene	ND	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	Acenaphthene	ND	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	anthracene	160	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	benzo(a)anthracene	73	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	benzo(a)pyrene	270	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	benzo(b)fluoranthene	310	ug/kg	2.5	65	7.5	3

Sample Quantitation Limit (SQL) = MDL \* Dilution Factor.

Rounding on totals after summation.

(c) - Indicates calculated results.

J - The analyte was either detected at or greater than the SQL and less than the MRL, or did not meet any one of the required QC criteria.

750 Royal Oaks Drive, Suite 100  
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**Environ International Corp.**

John M. Pekala, P.G.  
 1702 E. Highland Ave.  
 Suite 412  
 Phoenix, AZ 85016

Samples Received on:  
 03/27/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	SQL	Dilution
	03/30/2013 01:21		(EPA8270)	Benzo(g,h,i)perylene	1200	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	benzo(k)fluoranthene	230	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	chrysene	56J	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	Dibenz(a,h)Anthracene	410	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	fluoranthene	82	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	fluorene	ND	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	Indeno(1,2,3,c,d)Pyrene	610	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	naphthalene	ND	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	phenanthrene	67	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	pyrene	98	ug/kg	2.5	65	7.5	3
	03/30/2013 01:21		(EPA8270)	Terphenyl-d14	65	%				1
<b>SM 4500 NH3 F - Ammonia-N Solid_Emax</b>										
	04/02/2013 19:40		(SM 4500 NH3 F)	Ammonia by N	4300	mg/kg	2.6	948	570	220
<b>6850 - Perchlorate Solid Subbed</b>										
	04/02/2013 12:47		(6850)	Perchlorate	ND	ug/kg	4.3	8.6	4.3	1
<b>9056 - @ANIONS BY IC_Subbed</b>										
	04/02/2013 15:54		(9056)	Bromide	ND	mg/kg	11	22	11	1
	04/02/2013 15:54		(9056)	Chloride	5300	mg/kg	4.3	431	220	50
	04/02/2013 15:54		(9056)	Fluoride	30	mg/kg	2.2	4.3	2.2	1
	04/02/2013 15:54		(9056)	Nitrate-N	2.5J	mg/kg	2.2	4.3	2.2	1
	04/02/2013 15:54		(9056)	Nitrite-N	ND	mg/kg	2.2	4.3	2.2	1
	04/02/2013 15:54		(9056)	Orthophosphate-P	ND	mg/kg	11	22	11	1
	04/02/2013 15:54		(9056)	Sulfate	11000	mg/kg	11	22	11	1

Sample Quantitation Limit (SQL) = MDL \* Dilution Factor.

Rounding on totals after summation.

(c) - Indicates calculated results.

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Tel:  
Fax:

---

**QC Ref # -**

**Analysis Date:**

Analyzed by:



**Eaton Analytical**

formerly *MWH Laboratories*

750 Royal Oaks Drive, Suite 100  
Monrovia, California 91016-3629  
Tel: (626) 386-1100  
Fax: (626) 386-1101  
1 800 566 LABS (1 800 566 5227)

**Laboratory QC  
Report: 429486**

Environ International Corp.

---

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
---------	---------	--------	--------	-----------	-------	-----------	------------	--------------	------

---

**QC Ref# - by**

**Analysis Date:**

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

## TABLE OF CONTENTS

**CLIENT: EUROFINS EATON ANALYTICAL**

**PROJECT: 429486**

**SDG: 13C207**

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GC-SVOA	METHOD 3550B/8081A	5000 – 5007
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\*\* - Not Requested



**LABORATORIES, INC.**  
 1835 W. 205th Street  
 Torrance, CA 90501  
 Tel: (310) 618-8889  
 Fax: (310) 618-0818

Date: 04-05-2013  
 EMAX Batch No.: 13C207

Attn: Jackie Contreras

Eurofins Eaton Analytical  
 750 Royal Oaks Dr., Suite 100  
 Monrovia, CA 91016-3629

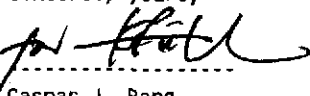
Subject: Laboratory Report  
 Project: 429486

-----  
 Enclosed is the Laboratory report for samples received on 03/28/13.  
 The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
FBR SLUDGE	C207-01	03/22/13	SOIL	PAH BY 8270C SIM ORTHO-PHOSPHATE-P PH ANIONS BY IC TOTAL SULFIDE BY STD METHOD AMMONIA-N BY SM4500-NH3 F PERCHLORATE BY 6850 TOTAL CYANIDE CHROMIUM HEXAVALENT TOTAL METALS BY ICP-MS MERCURY VOLATILE ORGANICS BY GC/MS SEMIVOLATILE ORGANICS BY GCMS POLYCHLORINATED BIPHENYLS (PCBS) PESTICIDES ORGANOCHLORINE

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

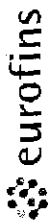
Sincerely yours,  
  
 -----  
 Caspar J. Pang  
 Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA  
 L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing





Eaton Analytical

# CHAIN OF CUSTODY RECORD

BC207

429486

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY:

750 Royal Oaks Drive, Suite 100  
 Monrovia, CA 91016-3629  
 Phone: 626 386 1100  
 Fax: 626 386 1101  
 800 566 LABS (800 566 5227)  
 Website: www.EatonAnalytical.com

SAMPLE TEMP RECEIVED AT:

Colton / No. California / Arizona  
 Monrovia

°C (Compliance: 4 ± 2 °C)

°C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen Partially Frozen Thawed Wet Ice No Ice

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other:

SAMPLES LOGGED IN BY:

SAMPLES REC'D DAY OF COLLECTION? (check for yes)

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:

PROJECT CODE:

EEA CLIENT CODE:

SAMPLE GROUP:

STD 1 wk 3 day 2 day 1 day

TAT requested: rush by adv notice only

SAMPLE DATE

SAMPLE TIME

SAMPLE ID

CLIENT LAB ID

MATRIX \*

FIELD DATA

FIELD DATA

SAMPLER COMMENTS

① 3/27/3 @ 10:30 AM - FBR Sludge

Sample goes to EMAX

see attachment for test lists

(check for yes)

COMPLIANCE SAMPLES

- Requires state forms

NON-COMPLIANCE SAMPLES

REGULATION INVOLVED:

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, Phase V, NPDES, FDA...)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES (check for yes), OR

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

\* MATRIX TYPES: RSW = Raw Surface Water  
RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water  
FW = Other Finished Water

SEAW = Sea Water  
WW = Waste Water

BW = Bottled Water  
SW = Storm Water

SO = Soil  
SL = Sludge

O = Other - Please Identify

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE

TIME

SAMPLED BY:

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

Jacklyn Contreras  
Collection Brewer

*[Signature]*

EUROFINS Eaton Analytical  
EMAP  
3/28/3 09:15

15:20

X NND-47



SAMPLE RECEIPT FORM 1

Type of Delivery <input checked="" type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Other <input type="checkbox"/> EMAX Courier <input type="checkbox"/> Client Delivery	Airbill / Tracking Number <p style="font-size: 2em; font-family: cursive;">429425577941</p>	ECN: <u>13K207</u> Recipient: <u>Oravez</u> Date: <u>3/28/13</u> Time: <u>09:15</u>
--	--	---

COC Inspection			
<input checked="" type="checkbox"/> Client Name	<input type="checkbox"/> Client PM/FC	<input type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time/Location
<input checked="" type="checkbox"/> Address	<input type="checkbox"/> Tel # / Fax #	<input type="checkbox"/> Courier Signature	<input type="checkbox"/> Analysis Required
Safety Issues (if any)	<input type="checkbox"/> High concentrations expected	<input type="checkbox"/> Superfund Site samples	<input type="checkbox"/> Rad screening required
<input type="checkbox"/> Matrix <input checked="" type="checkbox"/> TAT			
Comments:			

Packaging Inspection			
Container: <input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other	
Condition: <input checked="" type="checkbox"/> Custody Seal	<input checked="" type="checkbox"/> Intact	<input type="checkbox"/> Damaged	
Packaging: <input type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Poptorn	<input type="checkbox"/> Substituted
Temperatures (Cool, =6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>4.5</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
Thermometer: <u>A - S/N 101541371</u>	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
	<input type="checkbox"/> Cooler 9 _____ °C	<input type="checkbox"/> Cooler 10 _____ °C	
	<u>B - S/N 101541382</u>	<u>C - S/N 122091701</u>	<u>D - S/N 122091758</u>
Comments: <input type="checkbox"/> Temperature is out of range. PM was informed IMMEDIATELY.			
Note: pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.			

DISCREPANCIES				
LSID	LSCID	Description Code	Sample Label ID / Information	Corrective Action Code

Continue to next page.

REVIEWS      Sample Labeling: Oravez      SRF: Oravez      PM: PLB  
 Date: 3/28/13      Date: 3/28/13      Date: 3/28/13

<b>LEGEND:</b> Code      Description-Sample Management A1      Analysis is not indicated in COC. A2      Analysis is not indicated in label. A3      Analysis is inconsistent in COC vis-à-vis label. B1      Sample ID is not indicated in COC. B2      Sample ID is not indicated in label. B3      Sample ID is inconsistent in COC vis-à-vis label. C1      Improper container C2      Broken container C3      Leaking container D1      Date and/or time is not indicated in COC. D2      Date and/or time is not indicated in label. D3      Date and/or time is inconsistent in COC vis-à-vis label. F1      Improper preservation F2      Insufficient Sample F3      Bubble is > 6mm. Use vial with smallest bubble first. F4      Bubble is > 6mm in all vials. F5      >20 % solid particle F6      Out of Holding Time	Code      Description-Sample Management G1      Sample indicated in COC is not received. G2      MS/MSD is not indicated in COC. G3      No identified trip blank, proceed as indicated in COC. G4      Trip Blank is designated in SDG _____ G5      Trip Blank has no sampling date & time. Log-in with earliest sampling date and 0:00 time. H1 <u>Limited volume</u>	Code      Description-Project Management R1      Hold sample(s); wait for further instructions R2      Proceed as indicated in COC and inform client. R3      Refer to attached instruction R4      Cancel the analysis R5      Inform client. R6      Proceed as indicated in COC
--	--	--

**Richard Beauvil**

---

**From:** Jaclyn Contreras [JaclynContreras@eurofinsUS.com]  
**Sent:** Friday, March 29, 2013 8:36 AM  
**To:** Richard Beauvil  
**Cc:** Linda Geddes; #us20\_subcontract  
**Subject:** RE: 13C207 sample receipt forms for your review

Hi Richard

At this time, please use the coc that was submitted with the sample. I have to work on some things on our end for this order so the normal sub coc isn't going to work. Please go with PO 99-22842 and EEA folder # 429486. thanks

---

**From:** Richard Beauvil [mailto:RBeauvil@emaxlabs.com]  
**Sent:** Thursday, March 28, 2013 6:42 PM  
**To:** Jaclyn Contreras  
**Cc:** Linda Geddes; #us20\_subcontract  
**Subject:** 13C207 sample receipt forms for your review

Hi Jackie,

Please find attached the login for your review. Please send me the sub COC at your earliest convenience.

Thank you.

Richard M. Beauvil  
Project Manager/Safety Officer  
1835 W. 205th Street  
Torrance, CA 90501  
Tel: 310-618-8889 X118  
[rbeauvil@emaxlabs.com](mailto:rbeauvil@emaxlabs.com)

Click [here](#) to report this email as spam.

## Jaclyn Contreras

---

**From:** Richard Beauvil [RBeauvil@emaxlabs.com]  
**Sent:** Wednesday, March 27, 2013 12:38 PM  
**To:** Jaclyn Contreras  
**Cc:** Linda Geddes  
**Subject:** RE: FBR Sludge sample?

Hi Jackie,

We are pretty busy right now. With all these tests, lets shoot for 5 days TAT.

Richard M. Beauvil  
Project Manager/Safety Officer  
1835 W. 205th Street  
Torrance, CA 90501  
Tel: 310-618-8889 X118  
[rbeauvil@emaxlabs.com](mailto:rbeauvil@emaxlabs.com)

-----Original Message-----

**From:** Jaclyn Contreras [mailto:JaclynContreras@eurofinsus.com]  
**Sent:** Wednesday, March 27, 2013 12:30 PM  
**To:** Richard Beauvil  
**Cc:** Linda Geddes  
**Subject:** FW: FBR Sludge sample?

The client gave us this list as metals by 6010 or 6020. With the list you gave me we should go with 6020 plus the suite of testing we have been discussing. The sample is here and we will ship out today but I need to know how fast you can report. Please confirm. Jackie

Arsenic  
Barium  
Cadmium  
Chromium  
Cobalt  
Copper  
Lead  
Magnesium  
Manganese  
Mercury  
Molybdenum  
Nickel  
Selenium  
Silver  
Zinc

6020 only

---

**From:** Richard Beauvil [mailto:RBeauvil@emaxlabs.com]  
**Sent:** Wednesday, March 27, 2013 9:24 AM  
**To:** Jaclyn Contreras; Linda Geddes  
**Subject:** RE: FBR Sludge sample?

Hi Jackie,

Here's the 8270 standard list. For the metals, I assumed you needed the CAM 17 metal list. Here's a longer list of metals by 6010 and 6020 methods.

Richard M. Beauvil  
Project Manager/Safety Officer  
1835 W. 205th Street  
Torrance, CA 90501  
Tel: 310-618-8889 X118  
[rbeauvil@emaxlabs.com](mailto:rbeauvil@emaxlabs.com)

-----Original Message-----

**From:** Jaclyn Contreras [<mailto:JaclynContreras@eurofinsus.com>]  
**Sent:** Wednesday, March 27, 2013 8:45 AM  
**To:** Linda Geddes; Richard Beauvil  
**Subject:** RE: FBR Sludge sample?

Hi Richard

We still need to know if Iron is reported by 6010 plus I still need your standard list for 8270. Is hexachlorobenzene and Benzo(a)pyrene included in your standard 8270?

---

**From:** Linda Geddes  
**Sent:** Tuesday, March 26, 2013 4:36 PM  
**To:** Richard Beauvil; Jaclyn Contreras  
**Subject:** RE: FBR Sludge sample?

Yes, as long as you have a method reference that is acceptable to regulators.

Linda

---

#### **Eurofins Eaton Analytical**

Please update your address book. The old email is no longer working:  
[lindageddes@eurofinsUS.com](mailto:lindageddes@eurofinsUS.com)

Linda Geddes  
Analytical Services Manager

Phone: +1 626 386 1163

Website: [www.EatonAnalytical.com](http://www.EatonAnalytical.com)

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---

**From:** Richard Beauvil [<mailto:RBeauvil@emaxlabs.com>]  
**Sent:** Tuesday, March 26, 2013 4:34 PM  
**To:** Linda Geddes; Jaclyn Contreras  
**Subject:** RE: FBR Sludge sample?

Hi Linda,

Yes, we can do Ammonia and Phosphate. A lot of these EPA methods are being phased out. Would your client mind for us to use the Standard Method Equivalent. FYI, see attached.

Thank you.

Richard M. Beauvil  
Project Manager/Safety Officer  
1835 W. 205th Street  
Torrance, CA 90501  
Tel: 310-618-8889 X118  
[rbeauvil@emaxlabs.com](mailto:rbeauvil@emaxlabs.com)

-----Original Message-----

**From:** Linda Geddes [<mailto:LindaGeddes@eurofinsUS.com>]  
**Sent:** Tuesday, March 26, 2013 4:14 PM  
**To:** Richard Beauvil; Jaclyn Contreras  
**Subject:** RE: FBR Sludge sample?

Ammonia by EPA 350.1 or equivalent, Phosphate by 365.1 or equivalent for solids

---

#### **Eurofins Eaton Analytical**

Please update your address book. The old email is no longer working:  
[lindageddes@eurofinsUS.com](mailto:lindageddes@eurofinsUS.com)

Linda Geddes  
Analytical Services Manager

Phone: +1 626 386 1163

Website: [www.EatonAnalytical.com](http://www.EatonAnalytical.com)

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---

**From:** Richard Beauvil [<mailto:RBeauvil@emaxlabs.com>]  
**Sent:** Tuesday, March 26, 2013 4:09 PM  
**To:** Jaclyn Contreras  
**Cc:** Linda Geddes  
**Subject:** RE: FBR Sludge sample?

Yes, PAH by 8270SIM. Do you have a method number for Ammonia Phosphate? That may be the only one we don't do.

Richard M. Beauvil  
Project Manager/Safety Officer  
1835 W. 205th Street  
Torrance, CA 90501  
Tel: 310-618-8889 X118  
[rbeauvil@emaxlabs.com](mailto:rbeauvil@emaxlabs.com)

-----Original Message-----

**From:** Jaclyn Contreras [<mailto:JaclynContreras@eurofinsus.com>]  
**Sent:** Tuesday, March 26, 2013 3:35 PM  
**To:** Richard Beauvil  
**Cc:** Linda Geddes  
**Subject:** FW: FBR Sludge sample?

Please confirm if the 8270SIM is the PAH test. Plus, would Emax still be able to run the other test requested below:

Cyanide by EPA 9012  
Perchlorate by 6860  
VOCs 8260  
SVOCs (including Hexachlorobenzene and Benzo(a)pyrene by 8270  
Inorganic anions (bromide, chloride, fluoride, nitrate as nitrate, sulfate, nitrite as N, nitrate as N, and orthophosphate as phosphate) by EPA Method 9056  
Sulfide by EPA Method 9034  
Ammonia Phosphate  
Percent Moisture

I would need your list for these as well except for 8260.

---

**From:** Richard Beauvil [<mailto:RBeauvil@emaxlabs.com>]  
**Sent:** Tuesday, March 26, 2013 3:22 PM  
**To:** Jaclyn Contreras  
**Cc:** Linda Geddes  
**Subject:** RE: FBR Sludge sample?

Hi Jackie,

See RLs/MDLs attached. Open under notepad. On the sample volume a 8 oz jar should be sufficient if its a heavy normal soil. If its a light solid like some of filter cake you sent us in the past maybe a 16oz jar.

Richard M. Beauvil  
Project Manager/Safety Officer  
1835 W. 205th Street  
Torrance, CA 90501  
Tel: 310-618-8889 X118  
[rbeauvil@emaxlabs.com](mailto:rbeauvil@emaxlabs.com)

-----Original Message-----

**From:** Jaclyn Contreras [<mailto:JaclynContreras@eurofinsus.com>]  
**Sent:** Tuesday, March 26, 2013 2:58 PM  
**To:** Richard Beauvil  
**Cc:** Linda Geddes  
**Subject:** RE: FBR Sludge sample?

It looks solid to us and it came from the desert. If that helps. Please provide me with your 6020 and 6010 list with RLs and MDLs. Also, I would need to know your list for the PAHs and 8270 list. thanks

---

**From:** Richard Beauvil [<mailto:RBeauvil@emaxlabs.com>]  
**Sent:** Tuesday, March 26, 2013 2:55 PM  
**To:** Jaclyn Contreras  
**Cc:** Linda Geddes  
**Subject:** RE: FBR Sludge sample?

Hi Jackie,

Can you find out what the sample look like? We've received sludge from you that liquid samples and some are filter cake, some ar more solid. It would make a difference in how much volume we would need. Most of these tests we can do but it depends on the matrix. However, we would not recommend any tests as we do not know what your client need.

Richard M. Beauvil  
Project Manager/Safety Officer  
1835 W. 205th Street  
Torrance, CA 90501  
Tel: 310-618-8889 X118  
[rbeauvil@emaxlabs.com](mailto:rbeauvil@emaxlabs.com)

-----Original Message-----

**From:** Jaclyn Contreras [<mailto:JaclynContreras@eurofinsUS.com>]  
**Sent:** Tuesday, March 26, 2013 2:37 PM  
**To:** Richard Beauvil  
**Cc:** Linda Geddes  
**Subject:** FBR Sludge sample?

Hi Richard

I have a NV client that needs several types of test that are needed on a sludge sample. Please let me know which test are recommended for a sludge sample and how much volume you need to run the sample. Plus, this would be a rush and we would need to know how fast you can report the test. thanks

They are asking for 6010 metals and 6020 metals (please let me know which test to pick)

Mercury by EPA 7470/7471A

Cyanide by EPA 9012

Perchlorate by 6860

VOCs 8260

SVOCs (including Hexachlolo benzene and Benzo(a)pyrene by 8270

PAHs by EPA 8310 or 8270

Inorganic anions (bromide, chloride, fluoride, nitrate as nitrate, sulfate, nitrite as N, nitrate as N, and orthophosphate as phosphate) by EPA Method 9056

Sulfide by EPA Method 9034

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ORIGIN ID: WHPA (626) 386-1116  
JEREMY HAHSEN  
EUROFINS EATON ANALYTICAL  
750 ROYAL OAKS DR

MONROVIA, CA 91016  
UNITED STATES US

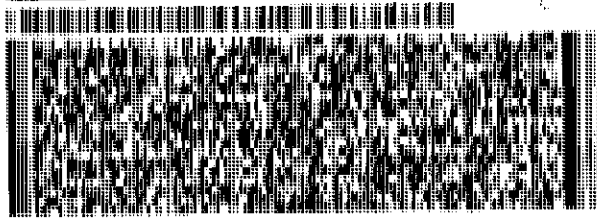
SHIP DATE: 28 MAR 13  
ACTWGT: 1.2 LB  
CAD: 0031  
DIMS: 12x8x10 IN

BILL SENDER

**SAMPLE RECEIVING  
EMAX LABORATORIES, INC.  
1835 205TH STREET**

51X1/458F/FE6

**TORRANCE CA 90501**  
(310) 610-8888 X 118 PO: MLD  
DEPT: SAMPLE PREP. / SHIPPING



**FedEx  
Express**



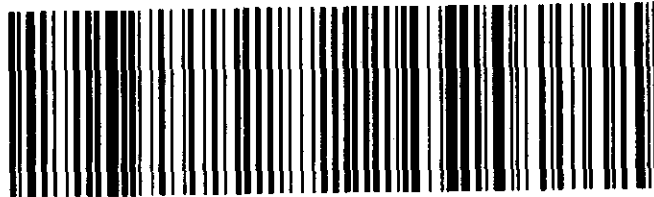
J12131210050125

TRK# 4294 2887 7441  
0201

**THU - 28 MAR 3:00P  
STANDARD OVERNIGHT**

**92 HHRA**

**90501  
CA-US LAX**



## REPORTING CONVENTIONS

### DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

**Note:** The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

### ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

### DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR  
EUROFINS EATON ANALYTICAL

429486

METHOD 5035/8260B  
VOLATILE ORGANICS BY GC/MS

SDG#: 13C207

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD 5035/8260B  
VOLATILE ORGANICS BY GC/MS

One (1) soil sample was received on 03/28/13 for Volatile Organics by GC/MS analysis, Method 5035/8260B in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration

Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank

Method blanks were analyzed at the frequency required by the project. For this SDG, four (4) method blanks were analyzed with the samples. All results were compliant to project requirement. Refer to QC result summary forms for details.

Lab Control Sample

Two (2) sets of LCS/LCD were analyzed with the samples in this SDG. Percent recoveries for VMF4D01L/C were all within QC limits. Percent recoveries for VSF4C30X/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated in this SDG.

Surrogate

Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Manual integration was applied to Carbon Disulfide in samples C207-01R because of improper integration. Hence, the original chromatograms were retained with the initialed and dated corrected chromatograms. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter. One internal standard was out of QC criteria in sample C207-01 initial analysis. However, sample was reanalyzed and reported from methanol extract at dilution to reduce possible matrix interference (sludge) and due to high concentration.

LAB CHRONICLE  
VOLATILE ORGANICS BY GC/MS

Client : EUROFINS EATON ANALYTICAL  
Project : 429486

SDG NO. : 13C207  
Instrument ID : F4

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
									SOIL
MBLK1S	VSF4C30B	1	NA	03/29/1308:34	03/29/1308:34	RCN402	RCN199	VSF4C30	Method Blank
LCS1S	VSF4C30X	1	NA	03/29/1309:56	03/29/1309:56	RCN405	RCN199	VSF4C30	Lab Control Sample (LCS)
LCDS	VSF4C30C	1	NA	03/29/1309:26	03/29/1309:26	RCN404	RCN199	VSF4C30	LCS Duplicate
MBLK2S	VSC010SB	1	NA	03/29/1311:42	03/29/1311:42	RCN409	RCN199	VSF4C30	Method Blank
FBR SLUDGE	C207-01R	0.94	76.8	03/29/1313:56	03/29/1313:56	RCN414	RCN199	VSF4C30	Field Sample
MBLK3S	VWF4D01B	50	NA	04/01/1310:54	04/01/1310:54	RDN007	RCN164	VSF4D01	Method Blank
LCS3S	VWF4D01L	50	NA	04/01/1309:34	04/01/1309:34	RDN004	RCN164	VSF4D01	Lab Control Sample (LCS)
LCDS	VWF4D01C	50	NA	04/01/1310:01	04/01/1310:01	RDN005	RCN164	VSF4D01	LCS Duplicate
MBLK4S	VSC011SB	50	NA	04/01/1311:20	04/01/1311:20	RDN008	RCN164	VSF4D01	Method Blank
FBR SLUDGE	C207-01T	45	76.8	04/01/1313:07	04/01/1313:07	RDN012	RCN164	VSF4D01	Diluted Sample

FN - Filename  
% Moist - Percent Moisture

# **SAMPLE RESULTS**

METHOD 5035/8260B  
VOLATILE ORGANICS BY GC/MS

```

Client      : EUROFINS EATON ANALYTICAL      Date Collected: 03/22/13
Project     : 429486                        Date Received: 03/28/13
Batch No.   : 13C207                       Date Extracted: 03/29/13 13:56 # 04/01/13 13:07
Sample ID   : FBR SLUDGE                    Date Analyzed: 03/29/13 13:56 # 04/01/13 13:07
Lab Samp ID: C207-01R #C207-01T            Dilution Factor: 0.94 # 45
Lab File ID: RCN414 #RDN012                Matrix          : SOIL
Ext Btch ID: VSF4C30 #VSF4D01              % Moisture     : 76.8
Calib. Ref.: RCN199 #RCN164                Instrument ID   : TDF4
  
```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)	
1,1,1-TRICHLOROETHANE	ND	20	8.1	
1,1,2,2-TETRACHLOROETHANE	ND	20	8.1	
1,1,2-TRICHLOROETHANE	ND	20	8.1	
1,1-DICHLOROETHANE	ND	20	8.1	
1,1-DICHLOROETHENE	ND	20	8.1	
1,2-DICHLOROETHANE	ND	20	8.1	
1,2-DICHLOROPROPANE	ND	20	8.1	
# 2-BUTANONE	7100	1900	970	
2-HEXANONE	45	41	20	
4-METHYL-2-PENTANONE	74	41	20	
# ACETONE	24000	1900	970	
BENZENE	ND	20	8.1	
BROMODICHLOROMETHANE	ND	20	8.1	
BROMOFORM	ND	20	8.1	
BROMOMETHANE	ND	41	8.1	
# CARBON DISULFIDE	2000	970	390	
CARBON TETRACHLORIDE	ND	20	8.1	
CHLOROBENZENE	ND	20	8.1	
CHLOROETHANE	ND	20	8.1	
CHLOROFORM	ND	20	8.1	
CHLOROMETHANE	ND	41	8.1	
CIS-1,2-DICHLOROETHENE	ND	20	8.1	
CIS-1,3-DICHLOROPROPENE	ND	20	8.1	
DIBROMDCHLOROMETHANE	ND	20	8.1	
ETHYLBENZENE	38	20	8.1	
M/P-XYLENES	150	41	8.1	
MTBE	ND	20	8.1	
METHYLENE CHLORIDE	ND	41	8.1	
O-XYLENE	43	20	8.1	
STYRENE	ND	20	8.1	
TETRACHLOROETHENE	27	20	8.1	
TOLUENE	33	20	8.1	
TRANS-1,2-DICHLOROETHENE	ND	20	8.1	
TRANS-1,3-DICHLOROPROPENE	ND	20	8.1	
TRICHLOROETHENE	8.8J	20	8.1	
VINYL CHLORIDE	ND	20	8.1	
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	194	202.6	95.6	60-160
4-BROMOFLUOROBENZENE	294	202.6	145	70-150
TOLUENE-D8	243	202.6	120	70-140
# 1,2-DICHLOROETHANE-D4	8370	9698	86.3	60-160
# 4-BROMOFLUOROBENZENE	9770	9698	101	70-150
# TOLUENE-D8	10100	9698	104	70-140

# Members of the Associated File

METHOD 5035/8260B  
VOLATILE ORGANICS BY GC/MS

```

=====
Client       : EURDFINS EATON ANALYTICAL      Date Collected: 03/22/13
Project      : 429486                         Date Received: 03/28/13
Batch No.    : 13C207                        Date Extracted: 03/29/13 13:56
Sample ID    : FBR SLUDGE                    Date Analyzed: 03/29/13 13:56
Lab Samp ID  : C207-01R                      Dilution Factor: 0.94
Lab File ID  : RCN414                        Matrix          : SOIL
Ext Btch ID  : VSF4C30                       % Moisture     : 76.8
Calib. Ref. : RCN199                         Instrument ID   : TOF4
=====

```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)	
1,1,1-TRICHLOROETHANE	ND	20	8.1	
1,1,2,2-TETRACHLOROETHANE	ND	20	8.1	
1,1,2-TRICHLOROETHANE	ND	20	8.1	
1,1-DICHLOROETHANE	ND	20	8.1	
1,1-DICHLOROETHENE	ND	20	8.1	
1,2-DICHLOROETHANE	ND	20	8.1	
1,2-DICHLOROPROPANE	ND	20	8.1	
2-BUTANONE	12000E	41	20	
2-HEXANONE	45	41	20	
4-METHYL-2-PENTANONE	74	41	20	
ACETONE	40000E	41	20	
BENZENE	ND	20	8.1	
BROMODICHLOROMETHANE	ND	20	8.1	
BROMOFORM	ND	20	8.1	
BROMOMETHANE	ND	41	8.1	
CARBON DISULFIDE	3300E	20	8.1	
CARBON TETRACHLORIDE	ND	20	8.1	
CHLOROBENZENE	ND	20	8.1	
CHLOROETHANE	ND	20	8.1	
CHLOROFORM	ND	20	8.1	
CHLOROMETHANE	ND	41	8.1	
CIS-1,2-DICHLOROETHENE	ND	20	8.1	
CIS-1,3-DICHLOROPROPENE	ND	20	8.1	
DIBROMOCHLOROMETHANE	ND	20	8.1	
ETHYLBENZENE	38	20	8.1	
M/P-XYLENES	150	41	8.1	
MTBE	ND	20	8.1	
METHYLENE CHLORIDE	ND	41	8.1	
O-XYLENE	43	20	8.1	
STYRENE	ND	20	8.1	
TETRACHLOROETHENE	27	20	8.1	
TOLUENE	33	20	8.1	
TRANS-1,2-DICHLOROETHENE	ND	20	8.1	
TRANS-1,3-DICHLOROPROPENE	ND	20	8.1	
TRICHLOROETHENE	8.8J	20	8.1	
VINYL CHLORIDE	ND	20	8.1	
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	194	202.6	95.6	60-160
4-BROMOFLUOROBENZENE	294	202.6	145	70-150
TOLUENE-DB	243	202.6	120	70-140



METHOD 5035/8260B  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 03/22/13
Project     : 429486                          Date Received: 03/28/13
Batch No.   : 13C207                          Date Extracted: 04/01/13 13:07
Sample ID:  FBR SLUDGEOL                      Date Analyzed: 04/01/13 13:07
Lab Samp ID: C207-01T                        Dilution Factor: 45
Lab File ID: RON012                          Matrix       : SOIL
Ext Btch ID: VSF4D01                         % Moisture  : 76.8
Calib. Ref.: RCN164                          Instrument ID : TOF4
=====

```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)	
1,1,1-TRICHLOROETHANE	ND	970	390	
1,1,2,2-TETRACHLOROETHANE	ND	970	390	
1,1,2-TRICHLOROETHANE	ND	970	390	
1,1-DICHLOROETHANE	ND	970	390	
1,1-DICHLOROETHENE	ND	970	390	
1,2-DICHLOROETHANE	ND	970	390	
1,2-DICHLOROPROPANE	ND	970	390	
2-BUTANONE	7100	1900	970	
2-HEXANONE	ND	1900	970	
4-METHYL-2-PENTANONE	ND	1900	970	
ACETONE	24000	1900	970	
BENZENE	ND	970	390	
BROMODICHLOROMETHANE	ND	970	390	
BROMOFORM	ND	970	390	
BROMOMETHANE	ND	1900	390	
CARBON DISULFIDE	2000	970	390	
CARBON TETRACHLORIDE	ND	970	390	
CHLOROETHANE	ND	970	390	
CHLOROETHENE	ND	970	390	
CHLOROFORM	ND	970	390	
CHLOROMETHANE	ND	1900	390	
CIS-1,2-DICHLOROETHENE	ND	970	390	
CIS-1,3-DICHLOROPROPENE	ND	970	390	
DIBROMOCHLOROMETHANE	ND	970	390	
ETHYLBENZENE	ND	970	390	
M/P-XYLENES	ND	1900	390	
MTBE	ND	970	390	
METHYLENE CHLORIDE	ND	1900	390	
O-XYLENE	ND	970	390	
STYRENE	ND	970	390	
TETRACHLOROETHENE	ND	970	390	
TOLUENE	ND	970	390	
TRANS-1,2-DICHLOROETHENE	ND	970	390	
TRANS-1,3-DICHLOROPROPENE	ND	970	390	
TRICHLOROETHENE	ND	970	390	
VINYL CHLORIDE	ND	970	390	
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	8370	9698	86.3	60-160
4-BROMOFLUOROBENZENE	9770	9698	101	70-150
TOLUENE-D8	10100	9698	104	70-140

# QC SUMMARIES

METHOD 5035/8260B  
VOLATILE ORGANICS BY GC/MS

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project     : 429486                        Date Received: 03/29/13
Batch No.   : 13C207                        Date Extracted: 03/29/13 08:34
Sample ID   : MBLK1S                        Date Analyzed: 03/29/13 08:34
Lab Samp ID: VSF4C30B                       Dilution Factor: 1
Lab File ID: RCN402                          Matrix          : SOIL
Ext Btch ID: VSF4C30                          % Moisture     : NA
Calib. Ref.: RCN199                          Instrument ID   : TOF4
=====

```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)	
1,1,1-TRICHLOROETHANE	ND	5.0	2.0	
1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0	
1,1,2-TRICHLOROETHANE	ND	5.0	2.0	
1,1-DICHLOROETHANE	ND	5.0	2.0	
1,1-DICHLOROETHENE	ND	5.0	2.0	
1,2-DICHLOROETHANE	ND	5.0	2.0	
1,2-DICHLOROPROPANE	NO	5.0	2.0	
2-BUTANONE	ND	10	5.0	
2-HEXANONE	ND	10	5.0	
4-METHYL-2-PENTANONE	ND	10	5.0	
ACETONE	ND	10	5.0	
BENZENE	ND	5.0	2.0	
BROMODICHLOROMETHANE	ND	5.0	2.0	
BROMOFORM	ND	5.0	2.0	
BROMOMETHANE	ND	10	2.0	
CARBON DISULFIDE	ND	5.0	2.0	
CARBON TETRACHLORIDE	ND	5.0	2.0	
CHLOROBENZENE	ND	5.0	2.0	
CHLOROETHANE	NO	5.0	2.0	
CHLOROFORM	NO	5.0	2.0	
CHLOROMETHANE	ND	10	2.0	
CIS-1,2-DICHLOROETHENE	NO	5.0	2.0	
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0	
DIBROMOCHLOROMETHANE	ND	5.0	2.0	
ETHYLBENZENE	ND	5.0	2.0	
M/P-XYLENES	ND	10	2.0	
MTBE	ND	5.0	2.0	
METHYLENE CHLORIDE	ND	10	2.0	
O-XYLENE	ND	5.0	2.0	
STYRENE	ND	5.0	2.0	
TETRACHLOROETHENE	ND	5.0	2.0	
TOLUENE	ND	5.0	2.0	
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0	
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0	
TRICHLOROETHENE	ND	5.0	2.0	
VINYL CHLORIDE	ND	5.0	2.0	
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	45.7	50.00	91.5	70-140
4-BROMOFLUOROBENZENE	48.2	50.00	96.5	70-130
TOLUENE-D8	50.6	50.00	101	70-130

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: SW 5035/8260B

MATRIX: SOIL % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: VSF4C30B VSF4C30X VSF4C30C  
LAB FILE ID: RCN402 RCN405 RCN404  
DATE EXTRACTED: 03/29/1308:34 03/29/1309:56 03/29/1309:26 DATE COLLECTED: NA  
DATE ANALYZED: 03/29/1308:34 03/29/1309:56 03/29/1309:26 DATE RECEIVED: 03/29/13  
PREP. BATCH: VSF4C30 VSF4C30 VSF4C30  
CALIB. REF: RCN199 RCN199 RCN199

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	50.0	51.7	103	50.0	50.8	102	2	60-130	50
Benzene	ND	50.0	50.0	100	50.0	50.2	100	0	70-130	50
Chlorobenzene	ND	50.0	51.2	102	50.0	51.2	102	0	70-130	50
Toluene	ND	50.0	50.6	101	50.0	50.8	102	0	70-130	50
Trichloroethene	ND	50.0	52.8	106	50.0	52.3	105	1	70-130	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	50.0	45.1	90	50.0	45.3	91	70-140
4-Bromofluorobenzene	50.0	47.8	96	50.0	47.5	95	70-130
Toluene-d8	50.0	50.0	100	50.0	50.1	100	70-130

METHOD 5035/B260B  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project     : 429486                        Date Received: 03/29/13
Batch No.   : 13C207                        Date Extracted: 03/29/13 11:42
Sample ID   : MBLK2S                        Date Analyzed: 03/29/13 11:42
Lab Samp ID: VSC010SB                       Dilution Factor: 1
Lab File ID: RCN409                          Matrix       : SDIL
Ext Btch ID: VSF4C30                          % Moisture   : NA
Calib. Ref.: RCN199                          Instrument ID : TOF4
=====

```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)	
1,1,1-TRICHLOROETHANE	ND	5.0	2.0	
1,1,1,2,2-TETRACHLOROETHANE	ND	5.0	2.0	
1,1,2-TRICHLOROETHANE	ND	5.0	2.0	
1,1-DICHLOROETHANE	ND	5.0	2.0	
1,1-DICHLOROETHENE	ND	5.0	2.0	
1,2-DICHLOROETHANE	ND	5.0	2.0	
1,2-DICHLOROPROPANE	ND	5.0	2.0	
2-BUTANONE	ND	10	5.0	
2-HEXANONE	ND	10	5.0	
4-METHYL-2-PENTANONE	ND	10	5.0	
ACETONE	ND	10	5.0	
BENZENE	ND	5.0	2.0	
BROMODICHLOROMETHANE	ND	5.0	2.0	
BROMOFORM	ND	5.0	2.0	
BROMOMETHANE	ND	10	2.0	
CARBON DISULFIDE	ND	5.0	2.0	
CARBON TETRACHLORIDE	ND	5.0	2.0	
CHLOROBENZENE	ND	5.0	2.0	
CHLOROETHANE	ND	5.0	2.0	
CHLOROFORM	ND	5.0	2.0	
CHLOROMETHANE	ND	10	2.0	
CIS-1,2-DICHLOROETHENE	ND	5.0	2.0	
CIS-1,3-DICHLOROPROPENE	ND	5.0	2.0	
DIBROMOCHLOROMETHANE	ND	5.0	2.0	
ETHYLBENZENE	ND	5.0	2.0	
M/P-XYLENES	ND	10	2.0	
MTBE	ND	5.0	2.0	
METHYLENE CHLORIDE	ND	10	2.0	
O-XYLENE	ND	5.0	2.0	
STYRENE	ND	5.0	2.0	
TETRACHLOROETHENE	ND	5.0	2.0	
TOLUENE	ND	5.0	2.0	
TRANS-1,2-DICHLOROETHENE	ND	5.0	2.0	
TRANS-1,3-DICHLOROPROPENE	ND	5.0	2.0	
TRICHLOROETHENE	ND	5.0	2.0	
VINYL CHLORIDE	ND	5.0	2.0	
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	47.8	50.00	95.6	70-140
4-BROMOFLUOROBENZENE	47.4	50.00	94.8	70-130
TOLUENE-D8	50.3	50.00	101	70-130

METHOD 5035/8260B  
VOLATILE ORGANICS BY GC/MS

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=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project     : 429486                        Date Received: 04/01/13
Batch No.   : 13C207                        Date Extracted: 04/01/13 10:54
Sample ID   : MBLK3S                        Date Analyzed: 04/01/13 10:54
Lab Samp ID: VMF4D01B                       Dilution Factor: 50
Lab File ID: RDN007                          Matrix          : SOIL
Ext Btch ID: VSF4D01                         % Moisture      : NA
Calib. Ref.: RCN164                          Instrument ID   : TOF4
=====

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PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)	
1,1,1-TRICHLOROETHANE	ND	250	100	
1,1,2,2-TETRACHLOROETHANE	ND	250	100	
1,1,2-TRICHLOROETHANE	ND	250	100	
1,1-DICHLOROETHANE	ND	250	100	
1,1-DICHLOROETHENE	ND	250	100	
1,2-DICHLOROETHANE	ND	250	100	
1,2-DICHLOROPROPANE	ND	250	100	
2-BUTANONE	ND	500	250	
2-HEXANONE	ND	500	250	
4-METHYL-2-PENTANONE	ND	500	250	
ACETONE	ND	500	250	
BENZENE	ND	250	100	
BROMODICHLORMETHANE	ND	250	100	
BROMOFORM	ND	250	100	
BROMOMETHANE	ND	500	100	
CARBON DISULFIDE	ND	250	100	
CARBON TETRACHLORIDE	ND	250	100	
CHLOROETHANE	ND	250	100	
CHLOROETHENE	ND	250	100	
CHLOROFORM	ND	250	100	
CHLOROMETHANE	ND	500	100	
CIS-1,2-DICHLOROETHENE	ND	250	100	
CIS-1,3-DICHLOROPROPENE	ND	250	100	
DIBROMOCHLORMETHANE	ND	250	100	
ETHYLBENZENE	ND	250	100	
M/P-XYLENES	ND	500	100	
MTBE	ND	250	100	
METHYLENE CHLDRIDE	ND	500	100	
O-XYLENE	ND	250	100	
STYRENE	ND	250	100	
TETRACHLOROETHENE	ND	250	100	
TOLUENE	ND	250	100	
TRANS-1,2-DICHLOROETHENE	ND	250	100	
TRANS-1,3-DICHLOROPROPENE	ND	250	100	
TRICHLOROETHENE	ND	250	100	
VINYL CHLORIDE	ND	250	100	
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	2340	2500	93.5	70-140
4-BROMOFLUOROBENZENE	2430	2500	97.1	70-130
TOLUENE-D8	2560	2500	102	70-130

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: SW 5035/8260B

MATRIX: SOIL % MOISTURE: NA  
DILUTION FACTOR: 50 50 50  
SAMPLE ID: MBLK3S  
LAB SAMP ID: VMF4D01B VMF4D01L VMF4D01C  
LAB FILE ID: RDN007 RDN004 RDN005  
DATE EXTRACTED: 04/01/1310:54 04/01/1309:34 04/01/1310:01 DATE COLLECTED: NA  
DATE ANALYZED: 04/01/1310:54 04/01/1309:34 04/01/1310:01 DATE RECEIVED: 04/01/13  
PREP. BATCH: VSF4D01 VSF4D01 VSF4D01  
CALIB. REF: RCN164 RCN164 RCN164

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
1,1-Dichloroethene	ND	2500	2320	93	2500	2270	91	2	60-130	50
Benzene	ND	2500	2400	96	2500	2370	95	1	70-130	50
Chlorobenzene	ND	2500	2400	96	2500	2370	95	1	70-130	50
Toluene	ND	2500	2410	96	2500	2380	95	1	70-130	50
Trichloroethene	ND	2500	2470	99	2500	2430	97	2	70-130	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT ( % )
1,2-Dichloroethane-d4	2500	2200	88	2500	2210	88	70-140
4-Bromofluorobenzene	2500	2490	100	2500	2480	99	70-130
Toluene-d8	2500	2540	102	2500	2560	102	70-130

METHOD 5035/B260B  
VOLATILE ORGANICS BY GC/MS

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Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project     : 429486                        Date Received: 04/01/13
Batch No.   : 13C207                        Date Extracted: 04/01/13 11:20
Sample ID   : MBLK4S                        Date Analyzed: 04/01/13 11:20
Lab Samp ID: VSC011SB                      Dilution Factor: 50
Lab File ID: RDN008                         Matrix          : SOIL
Ext Btch ID: VSF4D01                       % Moisture     : NA
Calib. Ref.: RCN164                        Instrument ID   : TOF4
  
```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)	
1,1,1-TRICHLOROETHANE	ND	250	100	
1,1,1,2,2-TETRACHLOROETHANE	ND	250	100	
1,1,2-TRICHLOROETHANE	ND	250	100	
1,1-DICHLOROETHANE	ND	250	100	
1,1-DICHLOROETHENE	ND	250	100	
1,2-DICHLOROETHANE	ND	250	100	
1,2-DICHLOROPROPANE	ND	250	100	
2-BUTANONE	ND	500	250	
2-HEXANONE	ND	500	250	
4-METHYL-2-PENTANONE	ND	500	250	
ACETONE	ND	500	250	
BENZENE	ND	250	100	
BRDMODICHLOROMETHANE	ND	250	100	
BROMOFORM	ND	250	100	
BROMOMETHANE	ND	500	100	
CARBON DISULFIDE	ND	250	100	
CARBON TETRACHLORIDE	ND	250	100	
CHLOROBENZENE	ND	250	100	
CHLOROETHANE	ND	250	100	
CHLOROFORM	ND	250	100	
CHLORMETHANE	ND	500	100	
CIS-1,2-DICHLOROETHENE	ND	250	100	
CIS-1,3-DICHLOROPROPENE	ND	250	100	
DIBROMOCHLOROMETHANE	ND	250	100	
ETHYLBENZENE	ND	250	100	
M/P-XYLENES	ND	500	100	
MTBE	ND	250	100	
METHYLENE CHLORIDE	ND	500	100	
O-XYLENE	ND	250	100	
STYRENE	ND	250	100	
TETRACHLOROETHENE	ND	250	100	
TOLUENE	ND	250	100	
TRANS-1,2-DICHLOROETHENE	ND	250	100	
TRANS-1,3-DICHLOROPROPENE	ND	250	100	
TRICHLOROETHENE	ND	250	100	
VINYL CHLORIDE	ND	250	100	
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	2250	2500	90.0	70-140
4-BROMOFLUOROBENZENE	2430	2500	97.1	70-130
TOLUENE-D8	2590	2500	104	70-130



LABORATORY REPORT FOR  
EUROFINS EATON ANALYTICAL

429486

METHOD 3550B/8270C  
SEMI VOLATILE ORGANICS BY GC/MS

SDG#: 13C207

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD 3550B/8270C  
SEMI VOLATILE ORGANICS BY GC/MS

One (1) soil sample was received on 03/28/13 for Semivolatile Organics by GCMS analysis, Method 3550B/8270C in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration

Instrument tune check was performed prior to calibration. Instrument mass ratios as well as DDT breakdown were evaluated. Results were within acceptance criteria. Tailing factor for Benzidine and Pentachlorophenol were also verified and results were within the method limits. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for SVC021SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated in this SDG.

Surrogate

Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter. Sample was initially analyzed at dilution DF 3X due to matrix problem.

LAB CHRONICLE  
SEM[ VOLATILE ORGANICS BY GC/MS

Client : EUROFINS EATON ANALYTICAL  
Project : 429486

SDG NO. : 13C207  
Instrument ID : T-OE4

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes	
				SOIL						
LCST5	SVC021SL	1	NA	03/30/1300:43	03/29/1313:26	RCJ179	RCJ007	SVC021S	Lab Control Sample (LCS)	
LCD1S	SVC021SC	1	NA	03/30/1301:02	03/29/1313:26	RCJ180	RCJ007	SVC021S	LCS Duplicate	
FBR SLUDGE	C207-01	3	76.8	03/30/1301:21	03/29/1313:26	RCJ181	RCJ007	SVC021S	Field Sample	
MBLK1S	SVC021SB	1	NA	04/01/1313:24	03/29/1313:26	RDJ005	RCJ007	SVC021S	Method Blank	

FN - Filename  
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD 35508/8270C  
SEMI VOLATILE ORGANICS BY GC/MS

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=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 03/22/13
Project    : 429486                          Date Received: 03/28/13
Batch No.  : 13C207                          Date Extracted: 03/29/13 13:26
Sample ID  : FBR SLUDGE                       Date Analyzed: 03/30/13 01:21
Lab Samp ID: C207-01                          Dilution Factor: 3
Lab File ID: RCJ181                           Matrix          : SOIL
Ext Btch ID: SVC021S                          % Moisture     : 76.8
Calib. Ref.: RCJ007                           Instrument ID   : T-OE4
=====
  
```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,2,4-TRICHLOROBENZENE	ND	4300	2200
1,2-DICHLOROBENZENE	ND	4300	2200
1,3-DICHLOROBENZENE	ND	4300	2200
1,4-DICHLOROBENZENE	ND	4300	2200
2,4,5-TRICHLOROPHENOL	ND	4300	2200
2,4,6-TRICHLOROPHENOL	ND	4300	2400
2,4-DICHLOROPHENOL	ND	4300	2200
2,4-DIMETHYLPHENOL	ND	4300	2200
2,4-DINITROPHENOL	ND	8500	2200
2,4-DINITROTOLUENE	ND	4300	2200
2,6-DINITROTOLUENE	ND	4300	2200
2-CHLORONAPHTHALENE	ND	4300	2200
2-CHLOROPHENOL	ND	4300	2200
2-METHYLNAPHTHALENE	ND	4300	2200
2-METHYLPHENOL	ND	4300	2200
2-NITROANILINE	ND	4300	2200
2-NITROPHENOL	ND	4300	2200
3,3'-DICHLOROBENZIDINE	ND	4300	2200
3-NITROANILINE	ND	4300	2200
4,6-DINITRO-2-METHYLPHENOL	ND	8500	2200
4-BROMOPHENYL-PHENYL ETHER	ND	4300	2200
4-CHLORO-3-METHYLPHENOL	ND	4300	2200
4-CHLOROANILINE	ND	4300	2200
4-CHLOROPHENYL-PHENYL ETHER	ND	4300	2200
4-METHYLPHENOL (1)	15000	4300	2200
4-NITROANILINE	ND	4300	2200
4-NITROPHENOL	ND	8500	2200
ACENAPHTHENE	ND	4300	2200
ACENAPHTHYLENE	ND	4300	2200
ANTHRACENE	ND	4300	2200
BENZO(A)ANTHRACENE	ND	4300	2200
BENZO(A)PYRENE	ND	4300	2200
BENZO(B)FLUORANTHENE	ND	4300	2200
BENZO(K)FLUORANTHENE	ND	4300	2200
BENZO(G,H,I)PERYLENE	ND	4300	2200
BIS(2-CHLOROETHOXY)METHANE	ND	4300	2200
BIS(2-CHLOROETHYL)ETHER	ND	4300	2200
BIS(2-CHLOROISOPROPYL)ETHER	ND	4300	2200
BIS(2-ETHYLHEXYL)PHTHALATE	ND	4300	2200
BUTYLBENZYLPHthalate	ND	4300	2200
CHRYSENE	ND	4300	2200
DI-N-BUTYLPHthalate	ND	4300	2200
DI-N-OCTYLPHthalate	ND	4300	2200
DIBENZO(A,H)ANTHRACENE	ND	4300	2200
DIBENZOFURAN	ND	4300	2200
DIETHYLPHthalate	ND	4300	2200
DIMETHYLPHthalate	ND	4300	2200
FLUORANTHENE	ND	4300	2200
FLUORENE	ND	4300	2200
HEXACHLOROBENZENE	ND	4300	2500
HEXACHLOROBUTADIENE	ND	4300	2200
HEXACHLOROXYCLOPENTADIENE	ND	4300	2200
HEXACHLOROETHANE	ND	4300	2200
INDENO(1,2,3-CD)PYRENE	ND	4300	2200
ISOPHORONE	ND	4300	2200
N-NITROSO-DI-N-PROPYLAMINE	ND	4300	2200
N-NITROSODIPHENYLAMINE (2)	ND	4300	2200
NAPHTHALENE	ND	4300	2200
NITROBENZENE	ND	4300	2200
PENTACHLOROPHENOL	ND	8500	2300
PHENANTHRENE	ND	4300	2200
PHENOL	ND	4300	2200
PYRENE	ND	4300	2200

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	5530	8621	64.2	20-140
2-FLUOROBIPHENYL	1260	2875	43.9	30-130
2-FLUOROPHENOL	2910	8621	33.8	20-130
NITROBENZENE-D5	1260	2875	43.8	20-130
PHENOL-D5	3520	8621	40.8	20-130
TERPHENYL-D14	2040	2875	71.1	40-130

(1): Cannot be separated from 3-Methylphenol  
(2): Cannot be separated from Diphenylamine

# QC SUMMARIES

METHOD 3550B/8270C  
SEMI VOLATILE ORGANICS BY GC/MS

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=====
Client       : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project      : 429486                        Date Received: 03/29/13
Batch No.    : 13C207                        Date Extracted: 03/29/13 13:26
Sample ID    : MBLK1S                        Date Analyzed: 04/01/13 13:24
Lab Samp ID  : SVC021SB                      Dilution Factor: 1
Lab File ID  : RDJ005                         Matrix : SOIL
Ext Btch ID  : SVC021S                       % Moisture : NA
Calib. Ref.  : RCJ007                        Instrument ID : T-OE4
=====

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PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,2,4-TRICHLOROBENZENE	ND	330	170
1,2-DICHLOROBENZENE	ND	330	170
1,3-DICHLOROBENZENE	ND	330	170
1,4-DICHLOROBENZENE	ND	330	170
2,4,5-TRICHLOROPHENOL	ND	330	170
2,4,6-TRICHLOROPHENOL	ND	330	180
2,4-DICHLOROPHENOL	ND	330	170
2,4-DIMETHYLPHENOL	ND	330	170
2,4-DINITROPHENOL	ND	660	170
2,4-DINITROTOLUENE	ND	330	170
2,6-DINITROTOLUENE	ND	330	170
2-CHLORONAPHTHALENE	ND	330	170
2-CHLOROPHENOL	ND	330	170
2-METHYLNAPHTHALENE	ND	330	170
2-METHYLPHENOL	ND	330	170
2-NITROANILINE	ND	330	170
2-NITROPHENOL	ND	330	170
3,3'-DICHLOROBENZIDINE	ND	330	170
3-NITROANILINE	ND	330	170
4,6-DINITRO-2-METHYLPHENOL	ND	660	170
4-BROMOPHENYL-PHENYL ETHER	ND	330	170
4-CHLORO-3-METHYLPHENOL	ND	330	170
4-CHLOROANILINE	ND	330	170
4-CHLOROPHENYL-PHENYL ETHER	ND	330	170
4-METHYLPHENOL (1)	ND	330	170
4-NITROANILINE	ND	330	170
4-NITROPHENOL	ND	660	170
ACENAPHTHENE	ND	330	170
ACENAPHTHYLENE	ND	330	170
ANTHRACENE	ND	330	170
BENZO(A)ANTHRACENE	ND	330	170
BENZO(A)PYRENE	ND	330	170
BENZO(B)FLUORANTHENE	ND	330	170
BENZO(K)FLUORANTHENE	ND	330	170
BENZO(G,H,I)PERYLENE	ND	330	170
BIS(2-CHLOROETHOXY)METHANE	ND	330	170
BIS(2-CHLOROETHYL)ETHER	ND	330	170
BIS(2-CHLOROISOPROPYL)ETHER	ND	330	170
BIS(2-ETHYLHEXYL)PHTHALATE	ND	330	170
BUTYLBENZYLPHTHALATE	ND	330	170
CHRYSENE	ND	330	170
DI-N-BUTYLPHTHALATE	ND	330	170
DI-N-OCTYLPHTHALATE	ND	330	170
DIBENZO(A,H)ANTHRACENE	ND	330	170
DIBENZOFURAN	ND	330	170
DIETHYLPHTHALATE	ND	330	170
DIMETHYLPHTHALATE	ND	330	170
FLUORANTHENE	ND	330	170
FLUORENE	ND	330	170
HEXACHLOROBENZENE	ND	330	170
HEXACHLOROBUTADIENE	ND	330	190
HEXACHLOROXYCLOPENTADIENE	ND	330	170
HEXACHLOROETHANE	ND	330	170
INDENO(1,2,3-CD)PYRENE	ND	330	170
ISOPHORONE	ND	330	170
N-NITROSO-DI-N-PROPYLAMINE	ND	330	170
N-NITROSODIPHENYLAMINE (2)	ND	330	170
NAPHTHALENE	ND	330	170
NITROBENZENE	ND	330	170
PENTACHLOROPHENOL	ND	660	170
PHENANTHRENE	ND	330	170
PHENOL	ND	330	170
PYRENE	ND	330	170

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	1550	2000	77.6	40-130
2-FLUOROBIPHENYL	462	667.0	69.2	30-130
2-FLUOROPHENOL	1570	2000	78.6	30-130
NITROBENZENE-D5	426	667.0	63.8	30-130
PHENOL-D5	1650	2000	82.5	30-130
TERPHENYL-D14	660	667.0	98.9	40-130

(1): Cannot be separated from 3-Methylphenol  
(2): Cannot be separated from Diphenylamine

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 3550B/8270C

MATRIX: SOIL % MOISTURE: NA  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: SVC021SB SVC021SL SVC021SC  
LAB FILE ID: RDJ005 RCJ179 RCJ180  
DATE EXTRACTED: 03/29/1313:26 03/29/1313:26 03/29/1313:26 DATE COLLECTED: NA  
DATE ANALYZED: 04/01/1313:24 03/30/1300:43 03/30/1301:02 DATE RECEIVED: 03/29/13  
PREP. BATCH: SVC021S SVC021S SVC021S  
CALIB. REF: RCJ007 RCJ007 RCJ007

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,2,4-Trichlorobenzene	ND	1330	1170	88	1330	1150	87	2	30-130	50
1,4-Dichlorobenzene	ND	1330	1140	86	1330	1100	83	4	30-130	50
2,4-Dinitrotoluene	ND	1330	1330	100	1330	1330	100	0	30-130	50
2-Chlorophenol	ND	1330	1100	83	1330	1080	81	2	30-130	50
4-Chloro-3-Methylphenol	ND	1330	1150	86	1330	1170	88	2	30-130	50
4-Nitrophenol	ND	1330	1070	80	1330	1080	81	1	20-130	50
Acenaphthene	ND	1330	1160	87	1330	1180	89	2	30-130	50
n-Nitroso-di-n-propylamine	ND	1330	1150	86	1330	1300	98	12	30-130	50
Pentachlorophenol	ND	1330	694	52	1330	735	55	6	20-130	50
Phenol	ND	1330	1070	80	1330	1080	81	1	30-130	50
Pyrene	ND	1330	1250	93	1330	1280	96	3	30-130	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
2,4,6-Tribromophenol	2000	1840	92	2000	1880	94	40-130
2-Fluorobiphenyl	667	504	76	667	502	75	30-130
2-Fluorophenol	2000	1590	80	2000	1590	79	30-130
Nitrobenzene-d5	667	471	71	667	457	68	30-130
Phenol-d5	2000	1670	84	2000	1670	83	30-130
Terphenyl-d14	667	695	104	667	710	106	40-130



LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

429486

METHOD 3550B/8270C SIM  
SEMI VOLATILE ORGANICS BY GC/MS

SDG#: 13C207

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD 3550B/8270C SIM  
SEMI VOLATILE ORGANICS BY GC/MS

One (1) soil sample was received on 03/28/13 for PAH BY 8270C SIM analysis, Method 3550B/8270C SIM in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration

Instrument tune check was performed prior to calibration. Instrument mass ratios were evaluated and results were within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for SVC021SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated in this SDG.

Surrogate

Surrogate was added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter. Sample was initially analyzed at dilution SDF 3X due to matrix problem.

LAB CHRONICLE  
SEMI VOLATILE ORGANICS BY GC/MS

Client : EUROFINS EATON ANALYTICAL  
Project : 429486

SDG NO. : 13C207  
Instrument ID : T-OE4

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	SVC021SB	1	NA	04/01/1313:24	03/29/1313:26	RPJ005	RCJ007	SVC021S	Method Blank
LCS1S	SVC021SL	1	NA	03/30/1300:43	03/29/1313:26	RCJ179	RCJ007	SVC021S	Lab Control Sample (LCS)
LCD1S	SVC021SC	1	NA	03/30/1301:02	03/29/1313:26	RCJ180	RCJ007	SVC021S	LCS Duplicate
FBR SLUDGE	C207-01	3	76.8	03/30/1301:21	03/29/1313:26	RCJ181	RCJ007	SVC021S	Field Sample

FN - Filename  
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD 3550B/8270C SIM  
SEMI VOLATILE ORGANICS BY GC/MS

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 03/22/13
Project     : 429486                        Date Received: 03/28/13
Batch No.   : 13C207                        Date Extracted: 03/29/13 13:26
Sample ID   : FBR SLUDGE                     Date Analyzed: 03/30/13 01:21
Lab Samp ID : C207-01                        Dilution Factor: 3
Lab File ID : RCJ181                         Matrix          : SOIL
Ext Btch ID : SVCD21S                       % Moisture     : 76.8
Calib. Ref.: RCJ007                         Instrument ID  : T-OE4
=====

```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	65	32
ACENAPHTHYLENE	ND	65	32
ANTHRACENE	160	65	32
BENZO(A)ANTHRACENE	73	65	32
BENZO(A)PYRENE	270	65	32
BENZO(B)FLUORANTHENE	310	65	32
BENZO(K)FLUORANTHENE	230	65	32
BENZO(G,H,I)PERYLENE	1200	65	32
CHRYSENE	56J	65	32
DIBENZO(A,H)ANTHRACENE	410	65	32
FLUORANTHENE	82	65	32
FLUORENE	ND	65	32
INDENO(1,2,3-CD)PYRENE	610	65	32
NAPHTHALENE	ND	65	32
PHENANTHRENE	67	65	32
PYRENE	98	65	32

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	1880	2874	65.3	40-130

# QC SUMMARIES

METHOD 3550B/8270C SIM  
SEMI VOLATILE ORGANICS BY GC/MS

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project     : 429486                        Date Received: 03/29/13
Batch No.   : 13C207                        Date Extracted: 03/29/13 13:26
Sample ID   : MBLK1S                        Date Analyzed: 04/01/13 13:24
Lab Samp ID: SVC021SB                       Dilution Factor: 1
Lab File ID: RDJ005                          Matrix      : SOIL
Ext Btch ID: SVC021S                         % Moisture  : NA
Calib. Ref.: RCJ007                          Instrument ID : T-OE4
=====

```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ACENAPHTHENE	ND	5.0	2.5
ACENAPHTHYLENE	ND	5.0	2.5
ANTHRACENE	ND	5.0	2.5
BENZO(A)ANTHRACENE	ND	5.0	2.5
BENZO(A)PYRENE	ND	5.0	2.5
BENZO(B)FLUORANTHENE	ND	5.0	2.5
BENZO(K)FLUORANTHENE	ND	5.0	2.5
BENZO(G,H,I)PERYLENE	ND	5.0	2.5
CHRYSENE	ND	5.0	2.5
DIBENZO(A,H)ANTHRACENE	ND	5.0	2.5
FLUORANTHENE	ND	5.0	2.5
FLUORENE	ND	5.0	2.5
INDENO(1,2,3-CD)PYRENE	ND	5.0	2.5
NAPHTHALENE	ND	5.0	2.5
PHENANTHRENE	ND	5.0	2.5
PYRENE	ND	5.0	2.5

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	628	666.7	94.2	40-130

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 3550B/8270C SIM

MATRIX: SOIL % MOISTURE: NA  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: SVC021SB SVC021SL SVC021SC  
LAB FILE ID: RDJ005 RCJ179 RCJ180  
DATE EXTRACTED: 03/29/1313:26 03/29/1313:26 03/29/1313:26 DATE COLLECTED: NA  
DATE ANALYZED: 04/01/1313:24 03/30/1300:43 03/30/1301:02 DATE RECEIVED: 03/29/13  
PREP. BATCH: SVC021S SVC021S SVC021S  
CALIB. REF: RCJ007 RCJ007 RCJ007

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
Acenaphthene	ND	1330	1130	85	1330	1140	86	1	10-130	50
Acenaphthylene	ND	1330	1210	91	1330	1220	91	0	20-130	50
Anthracene	ND	1330	1150	86	1330	1180	89	3	20-130	50
Benzo(a)anthracene	ND	1330	1220	91	1330	1250	94	2	30-130	50
Benzo(a)pyrene	ND	1330	1240	93	1330	1260	94	1	30-130	50
Benzo(b)fluoranthene	ND	1330	1210	91	1330	1230	93	2	40-130	50
Benzo(k)fluoranthene	ND	1330	1280	96	1330	1300	97	1	30-140	50
Benzo(g,h,i)perylene	ND	1330	1020	77	1330	1090	82	6	30-140	50
Chrysene	ND	1330	1240	93	1330	1270	95	2	30-140	50
Dibenzo(a,h)anthracene	ND	1330	1300	97	1330	1320	99	2	40-140	50
Fluoranthene	ND	1330	1160	87	1330	1180	89	2	30-130	50
Fluorene	ND	1330	1220	91	1330	1230	92	1	20-130	50
Indeno(1,2,3-cd)pyrene	ND	1330	1200	90	1330	1240	93	3	20-160	50
Naphthalene	ND	1330	1090	82	1330	1080	81	1	10-130	50
Phenanthrene	ND	1330	1150	86	1330	1180	89	2	20-130	50
Pyrene	ND	1330	1160	87	1330	1180	89	2	20-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT ( % )
Terphenyl-d14	667	649	97	667	659	99	40-130



**LABORATORY REPORT FOR**

**EUROFINS EATON ANALYTICAL**

**429486**

**METHOD 3550B/8081A  
PESTICIDES**

**SDG#: 13C207**

## CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

### METHOD 3550B/8081A PESTICIDES

One (1) soil sample was received on 03/28/13 for Pesticides Organochlorine analysis, Method 3550B/8081A in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

#### Holding Time

The sample was analyzed within the prescribed holding time.

#### Instrument Performance and Calibration

Instrument performance was checked prior to calibration. DDT and Endrin breakdown were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied; except for mean recovery in column A of closing DCC-MD01052 was bias high. Detected pesticides were reported from in-control column B. Refer to calibration summary forms of ICAL, ICV and CCV for details.

#### Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

#### Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for CPC033SL/C were all within QC limits.

#### Matrix QC Sample

No matrix QC sample was designated in this SDG.

#### Surrogate

Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

#### Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter. Positive sample results were confirmed by a second column. Relative percentage difference (RPD) between the two results was evaluated. If RPD is less than 40% and peaks are well defined the higher result is reported. Where RPD is greater than 40% the chromatogram is checked for anomalies and results are selected based on processed knowledge. If there is no evidence of any chromatographic ambiguity, the higher result is reported. Sample extracts subjected to appropriate cleanup technique (to reduce matrix interference) are recorded in extraction log. Results were reported from dilution run DF 10X due to matrix problem in non-dilution run.

LAB CHRONICLE  
PESTICIDES

Client : EUROFINS EATON ANALYTICAL  
Project : 429486

SDG NO. : 13C207  
Instrument ID : GCE8

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	SOIL		Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
				Analysis Date/Time	Moist					
MBLK1S	CPC033SB	1	NA	04/02/1303:16	03/29/1313:26	MD01043B	MD01034B	CPC033S	Method Blank	
LCS1S	CPC033SL	1	NA	04/02/1303:38	03/29/1313:26	MD01044B	MD01034B	CPC033S	Lab Control Sample (LCS)	
LCD1S	CPC033SC	1	NA	04/02/1303:59	03/29/1313:26	MD01045B	MD01034B	CPC033S	LCS Duplicate	
FBR SLUDGE	C207-01I	10	76.8	04/02/1305:45	03/29/1313:26	MD01050B	MD01047B	CPC033S	Diluted Sample	

FN - Filename  
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD 3550B/8081A  
PESTICIDES

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=====
Client       : EUROFINS EATON ANALYTICAL      Date Collected: 03/22/13
Project      : 429486                         Date Received: 03/28/13
Batch No.    : 13C207                        Date Extracted: 03/29/13 13:26
Sample ID    : FBR SLUDGE                     Date Analyzed: 04/02/13 05:45
Lab Samp ID  : C207-011                       Dilution Factor: 10
Lab File ID  : MD01050A                       Matrix          : SOIL
Ext Btch ID  : CPC033S                         % Moisture     : 76.8
Calib. Ref. : MDD1047A                       Instrument IO   : GCE8
=====

```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ALPHA-BHC	140 (230)	86	26 26
GAMMA-BHC (LINDANE)	250 (ND)	86	26 26
BETA-BHC	200 (250)	86	26 26
HEPTACHLOR	ND (ND)	86	26 26
DELTA-BHC	160 (130)	86	26 26
ALDRIN	(ND) 34J	86	26 26
HEPTACHLOR EPOXIDE	27J (ND)	86	26 26
GAMMA-CHLORDANE	100 (110)	86	26 26
ALPHA-CHLORDANE	ND (ND)	86	26 26
ENDOSULFAN I	52J (ND)	86	26 26
4,4'-DDE	ND (ND)	170	52 52
DIELDRIN	ND (ND)	170	52 52
ENDRIN	ND (ND)	170	52 52
4,4'-DDD	ND (ND)	170	52 52
ENDOSULFAN II	ND (ND)	170	52 52
4,4'-DDT	ND (ND)	170	52 52
ENDRIN ALDEHYDE	150J (ND)	170	52 52
ENDOSULFAN SULFATE	ND (ND)	170	65 65
ENDRIN KETONE	ND (ND)	170	52 52
METHOXYCHLOR	ND (ND)	860	170 170
TOXAPHENE	ND (ND)	2200	430 430

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	110.9 (71.10)	57.46	193* (124)	10-160
DECACHLOROBIPHENYL	66.94 (28.50)	57.46	116 (49.6)	30-150

RL : Reporting limit  
Left of | is related to first column ; Right of | related to second column  
Final result indicated by ( )

ALPHA-BHC  
GAMMA-BHC  
BETA-BHC  
HEPTACHLOR  
DELTA-BHC  
ALDRIN  
HEPTACHLOR EPOXIDE  
GAMMA-CHLORDANE  
ALPHA-CHLORDANE  
ENDOSULFAN I  
4,4'-DDE  
DIELDRIN  
ENDRIN  
4,4'-DDD  
ENDOSULFAN II  
4,4'-DDT  
ENDRIN ALDEHYDE  
ENDOSULFAN SULFATE  
ENDRIN KETONE  
METHOXYCHLOR  
TOXAPHENE  
TETRACHLORO-M-XYLENE  
DECACHLOROBIPHENYL

# QC SUMMARIES

METHOD 3550B/8081A  
PESTICIDES

```

=====
Client       : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project      : 429486                         Date Received: 03/29/13
Batch No.    : 13C207                        Date Extracted: 03/29/13 13:26
Sample ID    : MBLK1S                         Date Analyzed: 04/02/13 03:16
Lab Samp ID  : CPC033SB                       Dilution Factor: 1
Lab File ID  : MD01043A                       Matrix          : SOIL
Ext Btch ID  : CPC033S                        % Moisture     : NA
Calib. Ref. : MD01034A                       Instrument ID   : GCE8
=====

```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
ALPHA-BHC	ND (ND)	2.0	0.60 0.60
GAMMA-BHC (LINDANE)	ND (ND)	2.0	0.60 0.60
BETA-BHC	ND (ND)	2.0	0.60 0.60
HEPTACHLOR	ND (ND)	2.0	0.60 0.60
DELTA-BHC	ND (ND)	2.0	0.60 0.60
ALDRIN	ND (ND)	2.0	0.60 0.60
HEPTACHLOR EPOXIDE	ND (ND)	2.0	0.60 0.60
GAMMA-CHLORDANE	ND (ND)	2.0	0.60 0.60
ALPHA-CHLORDANE	ND (ND)	2.0	0.60 0.60
ENDOSULFAN I	ND (ND)	2.0	0.60 0.60
4,4'-DDE	ND (ND)	4.0	1.2 1.2
DIELDRIN	ND (ND)	4.0	1.2 1.2
ENDRIN	ND (ND)	4.0	1.2 1.2
4,4'-DDD	ND (ND)	4.0	1.2 1.2
ENDOSULFAN II	ND (ND)	4.0	1.2 1.2
4,4'-DDT	ND (ND)	4.0	1.2 1.2
ENDRIN ALDEHYDE	ND (ND)	4.0	1.2 1.2
ENDOSULFAN SULFATE	ND (ND)	4.0	1.5 1.5
ENDRIN KETONE	ND (ND)	4.0	1.2 1.2
METHOXYCHLOR	ND (ND)	20	4.0 4.0
TOXAPHENE	ND (ND)	50	10 10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	15.53 (13.83)	13.33	117 (104)	40-130
DECACHLOROBIPHENYL	15.95 (14.32)	13.33	120 (107)	40-160

RL : Reporting limit  
Left of | is related to first column ; Right of | related to second column  
Final result indicated by ( )

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 35508/8081A

MATRIX: SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: CPC033SL CPC033SC  
LAB FILE ID: MD01044A MD01045A  
DATE EXTRACTED: 03/29/13 13:26 03/29/13 13:26 DATE COLLECTED: NA  
DATE ANALYZED: 04/02/13 03:38 04/02/13 03:59 DATE RECEIVED: 03/29/13  
PREP. BATCH: CPC033S CPC033S  
CALIB. REF: MD01034A MD01034A

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
gamma-BHC (Lindane)	ND (ND)	6.67	9.33 (8.62)	140* (129)	6.67	8.60 (8.18)	129 (123)	8 (5)	40-130	50
Heptachlor	ND (ND)	6.67	8.44 (8.24)	127 (124)	6.67	7.96 (7.87)	119 (118)	6 (5)	30-130	50
Aldrin	ND (ND)	6.67	8.28 (8.06)	124 (121)	6.67	8.03 (8.08)	120 (121)	3 (0)	30-130	50
Dieldrin	ND (ND)	6.67	8.32 (8.18)	125 (123)	6.67	8.20 (8.03)	123 (120)	1 (2)	60-130	50
Endrin	ND (ND)	6.67	8.63 (8.29)	129 (124)	6.67	8.39 (8.01)	126 (120)	3 (3)	50-140	50
4,4'-DDT	ND (ND)	6.67	9.95 (9.15)	149* (137)	6.67	9.76 (8.54)	146* (128)	2 (7)	60-140	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
Tetrachloro-m-xylene	13.33	18.09 (16.08)	136* (121)	13.33	16.41 (14.68)	123 (110)	40-130
Decachlorobiphenyl	13.33	16.39 (14.82)	123 (111)	13.33	16.79 (14.66)	126 (110)	40-160



LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

429486

METHOD 3550B/8082  
PCBs

SDG#: 13C207

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
SDG : 13C207

METHOD 3550B/8082  
PCBS

One (1) soil sample was received on 03/28/13 for Polychlorinated Biphenyls (PCBs) analysis, Method 3550B/8082 in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for 60C033SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated in this SDG.

Surrogate

Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter. Sample extracts subjected to appropriate cleanup technique (to reduce matrix interference) are recorded in extraction log.

LAB CHRONICLE  
PCBS

Client : EUROFINS EATON ANALYTICAL  
Project : 429486

SDG NO. : 13C207  
Instrument ID : GCT071

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	CPC033SB	1	NA	04/01/1310:24	03/29/1313:26	KD01006A	KD01003A	CPC033SB	Method Blank
LCS1S	60C033SL	1	NA	04/01/1310:49	03/29/1313:26	KD01007A	KD01003A	CPC033SB	Lab Control Sample (LCS)
LCD1S	60C033SC	1	NA	04/01/1311:13	03/29/1313:26	KD01008A	KD01003A	CPC033SB	LCS Duplicate
FBR SLUDGE	C207-01	1	76.8	04/01/1311:38	03/29/1313:26	KD01009A	KD01003A	CPC033SB	Field Sample

FN - Filename  
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD 3550B/8082  
PCBS

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 03/22/13
Project     : 429486                        Date Received: 03/28/13
Batch No.   : 13C207                        Date Extracted: 03/29/13 13:26
Sample ID   : FBR SLUDGE                    Date Analyzed: 04/01/13 11:38
Lab Samp ID: C207-01                        Dilution Factor: 1
Lab File ID: KD01009A                       Matrix          : SOIL
Ext Btch ID: CPC033SB                       % Moisture      : 76.8
Calib. Ref.: KD01003A                       Instrument ID   : GCT071
=====
  
```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
PCB-1016	(ND) ND	220	86 86
PCB-1221	(ND) ND	220	86 86
PCB-1232	(ND) ND	220	86 86
PCB-1242	(ND) ND	220	86 86
PCB-1248	(ND) ND	220	86 86
PCB-1254	(ND) ND	220	86 86
PCB-1260	(ND) ND	220	86 86

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(66.35) 49.18	57.46	(115) 85.6	10-160
DECAChLOROBIPHENYL	(55.20) 48.43	57.46	(96.1) 84.3	30-150

Left of | is related to first column ; Right of | related to second column  
 Final result indicated by ( )  
 \* Out side of QC Limit

# QC SUMMARIES

METHOD 3550B/8082  
PCBs

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project    : 429486                          Date Received: 03/29/13
Batch No.  : 13C207                          Date Extracted: 03/29/13 13:26
Sample ID  : MBLK1S                          Date Analyzed: 04/01/13 10:24
Lab Samp ID: CPC033SB                        Dilution Factor: 1
Lab File ID: KD01006A                       Matrix          : SOIL
Ext Btch ID: CPC033SB                       % Moisture     : NA
Calib. Ref.: KD01003A                       Instrument ID   : GCT071
=====
  
```

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
PCB-1016	(ND) ND	50	20 20
PCB-1221	(ND) ND	50	20 20
PCB-1232	(ND) ND	50	20 20
PCB-1242	(ND) ND	50	20 20
PCB-1248	(ND) ND	50	20 20
PCB-1254	(ND) ND	50	20 20
PCB-1260	(ND) ND	50	20 20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(15.22) 14.96	13.33	(114) 112	40-130
DECACHLOROBIPHENYL	(17.01) 16.24	13.33	(128) 122	40-160

Left of | is related to first column ; Right of | related to second column  
 Final result indicated by ( )  
 \* Out side of QC Limit

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 3550B/8082

MATRIX: SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: CPC033SB 60C033SC  
LAB FILE ID: KD01006A KD01008A  
DATE EXTRACTED: 03/29/13 13:26 03/29/13 13:26  
DATE ANALYZED: 04/01/13 10:24 04/01/13 11:13  
PREP. BATCH: CPC033SB CPC033SB  
CALIB. REF: KD01003A KD01003A

% MOISTURE: NA  
DATE COLLECTED: NA  
DATE RECEIVED: 03/29/13

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS (ug/kg)	% REC	BS RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS (ug/kg)	% REC	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
PCB-1016	(ND)   ND	167	(185)   177	(111)   106	(185)   177	167	(111)   106	118   (119)	(189)   179	(113)   107	(2)   1	50-130	50
PCB-1260	(ND)   ND	167	196   (199)	118   (119)	196   (199)	167	118   (119)	202   (205)	202   (205)	121   (123)	3   (3)	70-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS (ug/kg)	% REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD (ug/kg)	% REC	QC LIMIT (%)
Tetrachloro-m-xylene	13.33	(15.77)   15.55	(118)   117	13.33	(16.20)   15.91	(122)   119	(122)   117	40-130	40-130
Decachlorobiphenyl	13.33	(15.63)   14.94	(117)   112	13.33	(16.29)   15.63	(122)   117	(122)   117	40-160	40-160



LABORATORY REPORT FOR  
EUROFINS EATON ANALYTICAL

429486

METALS / MERCURY

SDG#: 13C207

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD 6020A  
METALS BY ICP-MS

One (1) soil sample was received on 03/28/13 for Total Metals by ICP-MS analysis, Method 6020A in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Initial Calibration was established as prescribed by the method and was verified using a secondary source. Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for IMC037SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated for this SDG. Analytical spike and serial dilution were analyzed for matrix interference evaluation. Results were within method acceptance criteria.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

LAB CHRONICLE  
METALS BY ICP-MS

Client : EUROFINS EATON ANALYTICAL  
Project : 429486

SDG NO. : 13C207  
Instrument ID : T-IF6

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
									SOIL
MBLK1S	IMC037SB	1	NA	04/02/1316:08	03/28/1315:35	F6D03049	F6D03047	IMC037S	Method Blank
LCS1S	IMC037SL	1	NA	04/02/1316:12	03/28/1315:35	F6D03050	F6D03047	IMC037S	Lab Control Sample (LCS)
LCD1S	IMC037SC	1	NA	04/02/1316:17	03/28/1315:35	F6D03051	F6D03047	IMC037S	LCS Duplicate
FBR SLUDGEAS	C207-01A	0.971	76.8	04/02/1316:21	03/28/1315:35	F6D03052	F6D03047	IMC037S	Analytical Spike Sample
FBR SLUDGE	C207-01	0.971	76.8	04/02/1316:25	03/28/1315:35	F6D03053	F6D03047	IMC037S	Field Sample
FBR SLUDGEOL	C207-01J	4.85	76.8	04/02/1316:29	03/28/1315:35	F6D03054	F6D03047	IMC037S	Diluted Sample

FN - Filename

% Moist - Percent Moisture

METHOD 6020A  
METALS BY ICP-MS

Client	: EURDFINS EATON ANALYTICAL	Date Collected:	03/22/13
Project	: 429486	Date Received:	03/28/13
SDG NO.	: 13C207	Date Extracted:	03/28/13 15:35
Sample ID:	FBR SLUDGE	Date Analyzed:	04/02/13 16:25
Lab Samp ID:	C207-01	Dilution Factor:	0.971
Lab File ID:	F6D03053	Matrix	: SOIL
Ext Btch ID:	IMC0375	% Moisture	: 76.8
Calib. Ref.:	F6D03047	Instrument ID	: T-IF6

PARAMETERS	RESULTS	RL	MDL
	(mg/kg)	(mg/kg)	(mg/kg)
Arsenic	318	2.09	0.419
Barium	32.2	2.09	0.419
Cadmium	ND	2.09	0.419
Chromium	350	2.09	0.419
Cobalt	76.3	2.09	0.419
Copper	202	2.09	0.837
Lead	0.450J	2.09	0.419
Magnesium	1880	419	83.7
Manganese	56.1	2.09	0.837
Molybdenum	918	2.09	0.837
Nickel	35.3	2.09	0.419
Selenium	85.6	2.09	0.419
Silver	ND	2.09	0.419
Zinc	302	8.37	4.19

METHOD 6020A  
METALS BY ICP-MS

```

Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project    : 429486                          Date Received: 03/28/13
SDG NO.    : 13C207                          Date Extracted: 03/28/13 15:35
Sample ID  : MBLK1S                           Date Analyzed: 04/02/13 16:08
Lab Samp ID: IMC037SB                         Dilution Factor: 1
Lab File ID: F6003049                         Matrix          : SOIL
Ext Btch ID: IMC037S                           % Moisture      : NA
Calib. Ref.: F6003047                         Instrument ID   : T-IF6
  
```

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Arsenic	ND	0.500	0.100
Barium	ND	0.500	0.100
Cadmium	ND	0.500	0.100
Chromium	ND	0.500	0.100
Cobalt	ND	0.500	0.100
Copper	ND	0.500	0.200
Lead	ND	0.500	0.100
Magnesium	ND	100	20.0
Manganese	ND	0.500	0.200
Molybdenum	ND	0.500	0.200
Nickel	ND	0.500	0.100
Selenium	ND	0.500	0.100
Silver	ND	0.500	0.100
Zinc	ND	2.00	1.00

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
SDG NO.: 13C207  
METHOD: METHOD 6020A

MATRIX: SOIL % MOISTURE: NA  
DILTN FACTR: 1 1 1  
SAMPLE ID: MBLK1S  
CONTROL NO.: IMC037SB IMC037SL IMC037SC  
LAB FILE ID: F6D03049 F6D03050 F6D03051  
DATIME EXTRACTD: 03/28/1315:35 03/28/1315:35 03/28/1315:35 DATE COLLECTED: NA  
DATIME ANALYZD: 04/02/1316:08 04/02/1316:12 04/02/1316:17 DATE RECEIVED: 03/28/13  
PREP. BATCH: IMC037S IMC037S IMC037S  
CALIB. REF: F6D03047 F6D03047 F6D03047

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	25.0	23.9	96	25.0	24.4	98	2	80-120	20
Barium	ND	25.0	24.1	97	25.0	24.3	97	1	80-120	20
Cadmium	ND	25.0	24.2	97	25.0	24.5	98	1	80-120	20
Chromium	ND	25.0	23.9	96	25.0	24.2	97	1	80-120	20
Cobalt	ND	25.0	24.2	97	25.0	24.3	97	1	80-120	20
Copper	ND	25.0	23.6	95	25.0	24.0	96	2	80-120	20
Lead	ND	25.0	24.3	97	25.0	24.6	98	1	80-120	20
Magnesium	ND	2500	2500	100	2500	2520	101	1	80-120	20
Manganese	ND	25.0	24.6	98	25.0	24.7	99	1	80-120	20
Molybdenum	ND	25.0	24.0	96	25.0	24.3	97	1	80-120	20
Nickel	ND	25.0	23.8	95	25.0	23.9	96	1	80-120	20
Selenium	ND	25.0	24.0	96	25.0	24.2	97	1	80-120	20
Silver	ND	25.0	24.6	98	25.0	24.8	99	1	80-120	20
Zinc	ND	50.0	48.2	96	50.0	48.7	97	1	80-120	20

EMAX QUALITY CONTROL DATA  
SERIAL DILUTION ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 6020A

MATRIX: SOIL % MOISTURE: 76.8  
DILUTION FACTOR: 0.971 4.85  
SAMPLE ID: FBR SLUDGE FBR SLUDGEDL  
EMAX SAMP ID: C207-01 C207-01J  
LAB FILE ID: F6D03053 F6D03054  
DATE EXTRACTED: 03/28/1315:35 03/28/1315:35 DATE COLLECTED: 03/22/13  
DATE ANALYZED: 04/02/1316:25 04/02/1316:29 DATE RECEIVED: 03/28/13  
PREP. BATCH: IMC037S IMC037S  
CALIB. REF: F6D03047 F6D03047

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Arsenic	318	308	3	10
Barium	32.2	31.9	1	10
Cadmium	ND	ND	0	10
Chromium	350	337	4	10
Cobalt	76.3	74.6	2	10
Copper	202	197	2	10
Lead	0.450J	ND	NA	10
Magnesium	1880	1950J	NA	10
Manganese	56.1	55.2	2	10
Molybdenum	918	891	3	10
Nickel	35.3	34.4	3	10
Selenium	85.6	80.2	6	10
Silver	ND	ND	0	10
Zinc	302	300	0	10

EMAX QUALITY CONTROL DATA  
ANALYTICAL SPIKE ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
SDG NO.: 13C207  
METHOD: METHOD 6020A

MATRIX: SOIL % MOISTURE: 76.8  
DILTN FACTR: 0.971 0.971  
SAMPLE ID: FBR SLUDGE  
CONTROL NO.: C207-01  
LAB FILE ID: F6D03053 F6D03052  
DATIME EXTRCTD: 03/28/1315:35 03/28/1315:35 DATE COLLECTED: 03/22/13  
DATIME ANALYZD: 04/02/1316:25 04/02/1316:21 DATE RECEIVED: 03/28/13  
PREP. BATCH: IMC037S IMC037S  
CALIB. REF: F6D03047 F6D03047

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT ( % )
Arsenic	318	105	419	97	80-120
Barium	32.2	105	136	99	80-120
Cadmium	ND	105	106	102	80-120
Chromium	350	105	452	98	80-120
Cobalt	76.3	105	186	105	80-120
Copper	202	105	303	97	80-120
Lead	0.450J	105	106	100	80-120
Magnesium	1880	10500	12600	103	80-120
Manganese	56.1	105	165	104	80-120
Molybdenum	918	105	1020	99	80-120
Nickel	35.3	105	138	98	80-120
Selenium	85.6	105	190	100	80-120
Silver	ND	105	105	101	80-120
Zinc	302	209	514	102	80-120



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD 7471A  
MERCURY BY COLD VAPOR

One (1) soil sample was received on 03/28/13 for Mercury analysis, Method 7471A in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for HGD002SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated for this SDG. Analytical spike and serial dilution were analyzed for matrix interference evaluation. Results were within method acceptance criteria.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter. Limited sample; not enough samples to analyzed MS/MSD.

LAB CHRONICLE  
MERCURY BY COLD VAPOR

Client : EUROFINS EATON ANALYTICAL  
Project : 429486

SDG NO. : 13C207  
Instrument ID : TI047

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
HBLK1S	HGD002SB	1	NA	04/03/1316:25	04/03/1314:30	M47D002011	M47D002009	HGD002S	Method Blank
LCS1S	HGD002SL	1	NA	04/03/1316:28	04/03/1314:30	M47D002012	M47D002009	HGD002S	Lab Control Sample (LCS)
LCD1S	HGD002SC	1	NA	04/03/1316:30	04/03/1314:30	M47D002013	M47D002009	HGD002S	LCS Duplicate
FBR SLUDGEAS	C207-01A	0.982	76.8	04/03/1316:32	04/03/1314:30	M47D002014	M47D002009	HGD002S	Analytical Spike Sample
FBR SLUDGE	C207-01	0.982	76.8	04/03/1316:34	04/03/1314:30	M47D002015	M47D002009	HGD002S	Field Sample
FBR SLUDGE DL	C207-01J	4.91	76.8	04/03/1316:37	04/03/1314:30	M47D002016	M47D002009	HGD002S	Diluted Sample

FN - Filename  
% Moist - Percent Moisture

METHOD 7471A  
 MERCURY BY COLD VAPOR

Client : EUROFINS EATON ANALYTICAL  
 Project : 429486  
 Batch No. : 13C207

Matrix : SOIL  
 Instrument ID : T1047

SAMPLE ID	EWAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATE/TIME	Extraction DATE/TIME	LFID	CAL REF	PREP BATCH	Collection DATE/TIME	Received DATE/TIME
HBLK1S	HGD002SB	ND	1	NA	0.100	0.0200	04/03/1316:25	04/03/1314:30	M470002011	M470002009	HGD002S	NA	04/03/13
LCS1S	HGD002SL	0.817	1	NA	0.100	0.0200	04/03/1316:28	04/03/1314:30	M470002012	M470002009	HGD002S	NA	04/03/13
LCD1S	HGD002SC	0.815	1	NA	0.100	0.0200	04/03/1316:30	04/03/1314:30	M470002013	M470002009	HGD002S	NA	04/03/13
FBR SLUDGEAS	C207-01A	3.28	0.982	76.8	0.423	0.0847	04/03/1316:32	04/03/1314:30	M470002014	M470002009	HGD002S	03/22/13	03/28/13
FBR SLUDGE	C207-01	ND	0.982	76.8	0.423	0.0847	04/03/1316:34	04/03/1314:30	M470002015	M470002009	HGD002S	03/22/13	03/28/13
FBR SLUDGE DL	C207-01J	ND	4.91	76.8	2.12	0.423	04/03/1316:37	04/03/1314:30	M470002016	M470002009	HGD002S	03/22/13	03/28/13

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
SDG NO.: 13C207  
METHOD: METHOD 7471A

MATRIX: SOIL  
DILTN FACTR: 1 1 1 NA  
SAMPLE ID: MBLK1S  
CONTROL NO.: HGD00258 HGD002SL HGD002SC  
LAB FILE ID: M47D002011 M47D002012 M47D002013  
DATE TIME EXTRACTD: 04/03/1314:30 04/03/1314:30 04/03/1314:30  
DATE TIME ANALYZD: 04/03/1316:25 04/03/1316:28 04/03/1316:30  
PREP. BATCH: HGD002S HGD002S HGD002S  
CALIB. REF: M47D002009 M47D002009 M47D002009

ACCESSION:

PARAMETER	BLNK RSLT	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	RPD	QC LIMIT	MAX RPD
	mg/kg	mg/kg	mg/kg	% REC	mg/kg	mg/kg	% REC	%	%	%
Mercury	ND	.833	.817	98	.833	.815	98	0	80-120	20

EMAX QUALITY CONTROL DATA  
SERIAL DILUTION ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 7471A

MATRIX: SOIL  
DILUTION FACTOR: 0.982  
SAMPLE ID: FBR SLUDGE  
EMAX SAMP ID: C207-01  
LAB FILE ID: M47D002015  
DATE EXTRACTED: 04/03/1314:30  
DATE ANALYZED: 04/03/1316:34  
PREP. BATCH: HGD002S  
CALIB. REF: M47D002009

FBR SLUDGEDL  
C207-01J  
M47D002016  
04/03/1314:30  
04/03/1316:37  
HGD002S  
M47D002009

% MOISTURE: 76.8

DATE COLLECTED: 03/22/13  
DATE RECEIVED: 03/28/13

ACCESSION:

PARAMETER	SMP L RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Mercury	ND	ND	0	10

EMAX QUALITY CONTROL DATA  
ANALYTICAL SPIKE ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
SDG NO.: 13C207  
METHOD: METHOD 7471A

MATRIX: SOIL % MOISTURE: 76.8  
DILTN FACTR: 0.982  
SAMPLE ID: FBR SLUDGE  
CONTROL NO.: C207-01A  
LAB FILE ID: M47D002014  
DATE TIME EXTRACTD: 04/03/1314:30 DATE COLLECTED: 03/22/13  
DATE TIME ANALYZD: 04/03/1316:34 DATE RECEIVED: 03/28/13  
PREP. BATCH: HGD002S  
CALIB. REF: M47D002009

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS QC LIMIT % REC ( % )
Mercury	ND	3.53	3.28	93 85-115

LABORATORY REPORT FOR  
EUROFINS EATON ANALYTICAL

429486

WET CHEMICAL ANALYSES

SDG#: 13C207

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD SM 4500 NH3 F  
AMMONIA (NH3-N)

One (1) soil sample was received on 03/28/13 for Ammonia-N by SM4500-NH3 F analysis, Method SM 4500 NH3 F in accordance with Standard Methods for the Examination of Water and Wastewater, 20th Edition.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for NHD001SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated for this SDG.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter. Limited sample; not enough sample to analyzed sample duplicate and matrix spike.



METHOD SM 4500 NH3 F  
 AMMONIA (NH3-N)

Client : EUROFINS EATON ANALYTICAL  
 Project : 429486  
 Batch No. : 13C207

Matrix : SLUDGE  
 Instrument ID : 70

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	PREP FACTOR	MOIST (%)	LOO (mg/kg)	LOD (mg/kg)	ANALYSIS DATE/TIME	PREPARATION DATE/TIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATE/TIME	RECEIVED DATE/TIME
MBLK1S	NHD001SB	ND	1	NA	1.00	0.60	04/02/1319:36	04/01/1314:07	13NHD00111	NHD001	NHD001S	NA	NA
LCS1S	NHD001SL	3.97	1	NA	1.00	0.60	04/02/1319:37	04/01/1314:07	13NHD00112	NHD001	NHD001S	NA	NA
LC01S	NHD001SC	3.94	1	NA	1.00	0.60	04/02/1319:37	04/01/1314:07	13NHD00113	NHD001	NHD001S	NA	NA
FBR SLUDGE	C207-01	4.260	220	76.8	948	569	04/02/1319:40	04/01/1314:07	13NHD00124	NHD001	NHD001S	03/22/1310:36	03/28/13

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 429486  
BATCH NO. : 13C207  
METHOD : SM 4500 NH3 F

MATRIX : SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1S LGS1S  
LAB SAMPLE ID : NHD001S8 NHD001SL NHD001SC  
LAB FILE ID : 13NHD00112 13NHD00113  
DATE EXTRACTED : 04/01/1314:07 04/01/1314:07  
DATE ANALYZED : 04/02/1319:36 04/02/1319:37  
PREP BATCH : NHD001S NHD001S  
CALIBRATION REF: NHD001 NHD001

PARAMETER	MB RESULT (mg/kg)	SPIKE AMT (mg/kg)	BS RESULT (mg/kg)	BS REC (%)	SPIKE AMT (mg/kg)	BSD RESULT (mg/kg)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Ammonia (NH3-N)	ND	4	3.97	99	4	3.94	99	1	80-120	20

ACCESSION:

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD SM 4500 S2F  
SULFIDE

One (1) soil sample was received on 03/28/13 for Total Sulfide by Std Method analysis, Method SM 4500 S2 F in accordance with Standard Methods for the Examination of Water and Wastewater, 20th Edition.

Holding Time

The sample was analyzed within the prescribed holding time.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for SDC002SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated for this SDG.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter. Limited sample; not enough sample to analyzed sample duplicate.

METHOD SM4500 S2F  
SULFIDE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SLUDGE  
InstrumentID : NA

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	PREP. MOIST FACTOR (%)	LOQ (mg/kg)	LOD (mg/kg)	ANALYSIS DATE/TIME	PREPARATION DATE/TIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATE/TIME	RECEIVED DATE/TIME
MBLK1S	SDC002SB	ND	1	10	10	03/29/1316:26	03/29/1314:25	13SDC002S01	13SDC002	SDC002S	NA	NA
LCS1S	SDC002SL	38.6	1	10	10	03/29/1316:33	03/29/1314:25	13SDC002S02	13SDC002	SDC002S	NA	NA
LCD1S	SDC002SC	37	1	10	10	03/29/1316:52	03/29/1314:25	13SDC002S03	13SDC002	SDC002S	NA	NA
FBR SLUDGE	C207-01	ND	1	43.1	43.1	03/29/1317:03	03/29/1314:25	13SDC002S04	13SDC002	SDC002S	03/22/1310:36	03/28/13

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 429486  
BATCH NO. : 13C207  
METHOD : METHOD SM4500 S2F

MATRIX : SOIL  
DILUTION FACTOR: 1  
SAMPLE ID : MBLK1S  
LAB SAMPLE ID : SDC002SB  
LAB FILE ID : 13SDC002S01  
DATE EXTRACTED : 03/29/1314:25  
DATE ANALYZED : 03/29/1316:26  
PREP BATCH : SDC002S  
CALIBRATION REF: 13SDC002

MATRIX : SOIL  
DILUTION FACTOR: 1  
SAMPLE ID : LCD1S  
LAB SAMPLE ID : SDC002SC  
LAB FILE ID : 13SDC002S03  
DATE EXTRACTED : 03/29/1314:25  
DATE ANALYZED : 03/29/1316:52  
PREP BATCH : SDC002S  
CALIBRATION REF: 13SDC002

% MOISTURE: NA

ACCESSION:

PARAMETER	MB RESULT (mg/kg)	SPIKE AMT (mg/kg)	BS RESULT (mg/kg)	BS REC (%)	SPIKE AMT (mg/kg)	BSD RESULT (mg/kg)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
SULFIDE	ND	40	38.6	96	40	37.0	92	4	80-120	20

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
SDG : 13C207

METHOD 6850  
PERCHLORATE

One (1) soil sample was received on 03/28/13 for Perchlorate by 6850 analysis, Method 6850 in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for PLC001SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated for this SDG.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

# SAMPLE RESULTS

METHOD 6850  
PERCHLORATE

Client : EUROFINS EATON ANALYTICAL  
 Project : 429486  
 Batch No. : 13C207

Matrix : SOIL  
 Instrument ID : G0

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/kg)	DLF MOIST	RL (ug/kg)	MDL (ug/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MELK1S	PLC001SB	ND	1 NA	2.00	1.00	04/02/1312:05	03/29/1313:31	MD02004	MD02003	PLC001S	NA	03/29/13
LCS1S	PLC001SL	20.2	1 NA	2.00	1.00	04/02/1312:19	03/29/1313:31	MD02005	MD02003	PLC001S	NA	03/29/13
LCD1S	PLC001SC	21.0	1 NA	2.00	1.00	04/02/1312:33	03/29/1313:31	MD02006	MD02003	PLC001S	NA	03/29/13
FBR SLUDGE	C207-01	ND	1 76.8	8.62	4.31	04/02/1312:47	03/29/1313:31	MD02007	MD02003	PLC001S	03/22/1310:36	03/28/13



# QC SUMMARIES

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 6850

=====

MATRIX: SOIL % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: PLC001SB PLC001SL PLC001SC  
LAB FILE ID: MD02004 MD02005 MD02006  
DATE EXTRACTED: 03/29/1313:31 03/29/1313:31 03/29/1313:31 DATE COLLECTED: NA  
DATE ANALYZED: 04/02/1312:05 04/02/1312:19 04/02/1312:33 DATE RECEIVED: 03/29/13  
PREP. BATCH: PLC001S PLC001S PLC001S  
CALIB. REF: MD02003 MD02003 MD02003

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
Perchlorate	ND	20.0	20.2	101	20.0	21.0	105	4	85-115	20

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
SDG : 13C207

METHOD 3060A/7196A  
HEXAVALENT CHROMIUM

One (1) soil sample was received on 03/28/13 for Chromium Hexavalent analysis, Method 3060A/7196A in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample

Two (2) sets of LCS/LCD were analyzed with the samples in this SDG. Percent recoveries for CIS012SL/C (insoluble spike) were all within QC limits. Percent recoveries for CSC012SL/C (soluble spike) were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated for this SDG. Analytical spike was analyzed for matrix interference evaluation. Results were within method acceptance criteria.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise anomalies were discussed within the associated QC parameter. Limited sample; not enough sample to analyze matrix spike and matrix spike duplicate.

METHOD 3060A/7196A  
 HEXAVALENT CHROMIUM

Client : EUROFINS EATON ANALYTICAL  
 Project : 429486  
 Batch No. : 13C207

Matrix : SOIL  
 InstrumentID : 70

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	PREP FACTOR	MOIST (%)	RL (mg/kg)	MDL (mg/kg)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1S	CRC012SB	ND	1	NA	1	.5	04/02/1315:44	03/28/1314:44	CRC01209	CRC012	CRC012S	NA	NA
LCS1S	CSC012SL	11.2	1	NA	1	.5	04/02/1315:44	03/28/1314:44	CRC01210	CSC012	CSC012S	NA	NA
LCD1S	CSC012SC	10.9	1	NA	1	.5	04/02/1315:44	03/28/1314:44	CRC01211	CRC012	CRC012S	NA	NA
LCS2S	CIS012SL	586	50	NA	50	25	04/02/1315:44	03/28/1314:44	CRC01212	CIS012	CIS012S	NA	NA
LCD2S	CIS012SC	599	50	NA	50	25	04/02/1315:45	03/28/1314:44	CRC01213	CRC012	CRC012S	NA	NA
FBR SLUDGE	C207-01K	ND	100	76.8	431	216	04/02/1315:47	03/28/1314:44	CRC01217	CRC012	CRC012S	03/22/1310:36	03/28/13
FBR SLUDGE	C207-01A	4450	100	76.8	431	216	04/02/1315:53	03/28/1314:44	CRC01218	CRC012	CRC012S	03/22/1310:36	03/28/13

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 429486  
BATCH NO. : 13C207  
METHOD : 3060A/7196A

MATRIX : SOIL  
DILUTION FACTOR: 1  
SAMPLE ID : MBLK1S  
LAB SAMPLE ID : CRC012SB  
LAB FILE ID : CRC01209  
DATE EXTRACTED : 03/28/1314:44  
DATE ANALYZED : 04/02/1315:44  
PREP BATCH : CRC012S  
CALIBRATION REF: CRC012

MATRIX : SOIL  
DILUTION FACTOR: 1  
SAMPLE ID : LCO1S  
LAB SAMPLE ID : CRC012SC  
LAB FILE ID : CRC01211  
DATE EXTRACTED : 03/28/1314:44  
DATE ANALYZED : 04/02/1315:44  
PREP BATCH : CRC012S  
CALIBRATION REF: CRC012

% MOISTURE: NA

ACCESSION:

PARAMETER	MB RESULT (mg/kg)	SPIKE AMT (mg/kg)	BS RESULT (mg/kg)	BS REC (%)	SPIKE AMT (mg/kg)	BSD RESULT (mg/kg)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Hexavalent Chromium	ND	12	11.2	93	12	10.9	91	2	85-115	20

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EURDFINS EATON ANALYTICAL  
PROJECT : 429486  
BATCH NO. : 13C207  
METHOD : 3060A/7196A

MATRIX : SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1S LCS2S  
LAB SAMPLE ID : CRC012SB C1S012SL  
LAB FILE ID : CRC01209 CRC01212  
DATE EXTRACTED : 03/28/1314:44 03/28/1314:44  
DATE ANALYZED : 04/02/1315:44 04/02/1315:45  
PREP BATCH : CRC012S CRC012S  
CALIBRATION REF: CRC012 CRC012

ACCESSION:

PARAMETER	MB RESULT (mg/kg)	SPIKE AMT (mg/kg)	BS RESULT (mg/kg)	BS REC (%)	SPIKE AMT (mg/kg)	BSD RESULT (mg/kg)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Hexavalent Chromium	ND	624	586	94	676	599	89	2	80-120	20

EMAX QUALITY CONTROL DATA  
 MATRIX SPIKE (SOLUBLE) ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
 PROJECT : 429486  
 BATCH NO. : 13C207  
 METHOD : 3060A/7196A

MATRIX : SLUDGE  
 DILUTION FACTOR: 100  
 SAMPLE ID : FBR SLUDGE  
 LAB SAMPLE ID : C207-01A  
 LAB FILE ID : CRC01218  
 DATE PREPARED : 03/28/1314:44  
 DATE ANALYZED : 04/02/1315:47  
 PREP BATCH : CRC012S  
 CALIBRATION REF: CRC012

% MOISTURE: 76.8

ACCESSION:

PARAMETER	PARENT RESULT (mg/kg)	SPIKE AMT (mg/kg)	MS RESULT (mg/kg)	MS REC (%)	QC LIMIT (%)
Hexavalent Chromium	ND	5090	4450	88	85-115

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD 9010B/9014  
TOTAL CYANIDE

One (1) soil sample was received on 03/28/13 for Total Cyanide analysis, Method 9010B/9014 in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for CND001SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated for this SDG.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.



METHOD 90106/9014  
TOTAL CYANIDE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SOIL  
InstrumentID : 70

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	PREP FACTOR	MOIST (%)	RL (mg/kg)	MDL (mg/kg)	ANALYSIS DATE/TIME	PREPARATION DATE/TIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATE/TIME	RECEIVED DATE/TIME
MBLK1S	CND001SB	ND	1	NA	1	0.2	04/01/1318:55	04/01/1312:04	13CND00110	CND001	CND001S	NA	NA
LCS1S	CND001SL	4.54	1	NA	1	0.2	04/01/1318:56	04/01/1312:04	13CND00111	CND001	CND001S	NA	NA
LCD1S	CND001SC	4.63	1	NA	1	0.2	04/01/1318:56	04/01/1312:04	13CND00112	CND001	CND001S	NA	NA
FBR SLUDGE	C207-01	ND	1	76.8	4.31	0.862	04/01/1318:56	04/01/1312:04	13CND00115	CND001	CND001S	03/22/1310:36	03/28/13

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 429486  
BATCH NO. : 13C207  
METHOD : 90106/9014

=====

MATRIX : SOIL  
DILUTION FACTOR: 1  
SAMPLE ID : MBLKTS LOSTS 1  
LAB SAMPLE ID : CND001SB CND001SL LOSTS LOSTS 1  
LAB FILE ID : 13CND00110 13CND00111 13CND00112 CND001SC  
DATE EXTRACTED : 04/01/1312:04 04/01/1312:04 04/01/1312:04  
DATE ANALYZED : 04/01/1318:55 04/01/1318:56 04/01/1318:56  
PREP BATCH : CND001S CND001S CND001S  
CALIBRATION REF: CND001 CND001 CND001

ACCESSION:

PARAMETER	MB RESULT (mg/kg)	SPIKE AMT (mg/kg)	BS RESULT (mg/kg)	BS REC (%)	SPIKE AMT (mg/kg)	BSD RESULT (mg/kg)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
CYANIDE	ND	5	4.54	91	5	4.63	93	2	85-115	20

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD 9045C  
PH

One (1) soil sample was received on 03/28/13 for pH analysis, Method 9045C in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Calibration was performed as prescribed by the method. All calibration requirements were within acceptance criteria.

Matrix QC Sample

No matrix QC sample was designated for this SDG.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

METHOD 9045C

PH

Client : EUROFINS EATON ANALYTICAL  
 Project : 429486  
 Batch No. : 13C207

Matrix : SOIL  
 InstrumentID : 53

CLIENT	EMAX	RESULTS	PREP	MOIST	RL	MDL	ANALYSIS	PREPARATION	DATA	CAL	PREP	COLLECTION	RECEIVED
SAMPLE ID	SAMPLE ID	(pH unit)	FACTOR (%)	(%)	(pH unit)	(pH unit)	DATE/TIME	DATE/TIME	FILE ID	REF	BATCH	DATE/TIME	DATE/TIME
FBR SLUDGE	C207-01	5.86	1	76.8	0.1	0.1	03/28/13 13:42	03/28/13 12:15	13PHC007S01	13PHC007	PHC007S	03/22/13 10:36	03/28/13

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 429486

SDG : 13C207

METHOD 9056  
ANIONS BY IC

One (1) soil sample was received on 03/28/13 for Anions (Bromide, Chloride, Fluoride, Nitrate-N, Nitrite-N, Orthophosphate and Sulfate) by IC analysis, Method 9056 in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for ICD001SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated for this SDG.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

# SAMPLE RESULTS

METHOD 9056  
BROMIDE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SOIL  
Instrument ID : D0

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATE/TIME	Extraction DATE/TIME	LFID	CAL REF	PREP BATCH	Collection DATE/TIME	Received DATE/TIME
MBLK1S	ICD001SB	ND	1	NA	5.00	2.50	04/02/1315:06	04/01/1311:09	AD03-03	AD03-01	ICD001S	NA	04/01/13
LCS1S	ICD001SL	18.7	1	NA	5.00	2.50	04/02/1315:22	04/01/1311:09	AD03-04	AD03-01	ICD001S	NA	04/01/13
LCD1S	ICD001SC	18.7	1	NA	5.00	2.50	04/02/1315:38	04/01/1311:09	AD03-05	AD03-01	ICD001S	NA	04/01/13
FBR SLUDGE	C207-01	ND	1	76.8	21.6	10.8	04/02/1315:54	04/01/1311:09	AD03-06	AD03-01	ICD001S	03/22/1310:36	03/28/13

METHOD 9056  
CHLORIDE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SOIL  
Instrument ID : DO

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATE/TIME	Extraction DATE/TIME	LFID	CAL REF	PREP BATCH	Collection DATE/TIME	Received DATE/TIME
MBLK1S	ICD001SB	ND	1	NA	2.00	1.00	04/02/13 15:06	04/01/13 11:09	AD03-03	AD03-01	ICD001S	NA	04/01/13
LCS1S	ICD001SL	19.5	1	NA	2.00	1.00	04/02/13 15:22	04/01/13 11:09	AD03-04	AD03-01	ICD001S	NA	04/01/13
LCD1S	ICD001SC	19.5	1	NA	2.00	1.00	04/02/13 15:38	04/01/13 11:09	AD03-05	AD03-01	ICD001S	NA	04/01/13
FBR SLUDGE	C207-01I	5250	50	76.8	431	216	04/02/13 16:11	04/01/13 11:09	AD03-07	AD03-01	ICD001S	03/22/13 10:36	03/28/13



METHOD 9056  
FLUORIDE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SOIL  
Instrument ID : 00

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATE/TIME	Extraction DATE/TIME	LFID	CAL REF	PREP BATCH	Collection DATE/TIME	Received DATE/TIME
MBLK1S	ICD001SB	ND	1	NA	1.00	0.500	04/02/13 15:06	04/01/13 11:09	AD03-03	AD03-01	ICD001S	NA	04/01/13
LCS1S	ICD001SL	20.5	1	NA	1.00	0.500	04/02/13 15:22	04/01/13 11:09	AD03-04	AD03-01	ICD001S	NA	04/01/13
LCD1S	ICD001SC	20.5	1	NA	1.00	0.500	04/02/13 15:38	04/01/13 11:09	AD03-05	AD03-01	ICD001S	NA	04/01/13
FBR SLUDGE	C207-01	30.2	1	76.8	4.31	2.16	04/02/13 15:54	04/01/13 11:09	AD03-06	AD03-01	ICD001S	03/22/13 10:36	03/28/13

METHOD 9056  
NITRATE-N

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SOIL  
Instrument ID : D0

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATE/TIME	Extraction DATE/TIME	LFID	CAL REF	PREP BATCH	Collection DATE/TIME	Received DATE/TIME
MBLK1S	ICD001SB	ND	1	NA	1.00	0.500	04/02/1315:06	04/01/1311:09	AD03-03	AD03-01	ICD001S	NA	04/01/13
LCS1S	ICD001SL	10.1	1	NA	1.00	0.500	04/02/1315:22	04/01/1311:09	AD03-04	AD03-01	ICD001S	NA	04/01/13
LCD1S	ICD001SC	10.1	1	NA	1.00	0.500	04/02/1315:38	04/01/1311:09	AD03-05	AD03-01	ICD001S	NA	04/01/13
FBR SLUDGE	C207-01	2.54J	1	76.8	4.31	2.16	04/02/1315:54	04/01/1311:09	AD03-06	AD03-01	ICD001S	03/22/1310:36	03/28/13

METHOD 9056  
NITRITE-N

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SOIL  
Instrument ID : DO

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATE/TIME	Extraction DATE/TIME	LFID	CAL REF	PREP BATCH	Collection DATE/TIME	Received DATE/TIME
MBLK1S	ICD001SB	ND	1	1.00	0.500	04/02/1315:06	04/01/1311:09	AD03-03	AD03-01	ICD001S	NA	04/01/13
LCS1S	ICD001SL	20.5	1	1.00	0.500	04/02/1315:22	04/01/1311:09	AD03-04	AD03-01	ICD001S	NA	04/01/13
LCD1S	ICD001SC	20.4	1	1.00	0.500	04/02/1315:38	04/01/1311:09	AD03-05	AD03-01	ICD001S	NA	04/01/13
FBR SLUDGE	C207-01	ND	1	4.31	2.16	04/02/1315:54	04/01/1311:09	AD03-06	AD03-01	ICD001S	03/22/1310:36	03/28/13

METHOD 9056  
ORTHOPHOSPHATE-P

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SOIL  
Instrument ID : D0

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATE/TIME	Extraction DATE/TIME	LFID	CAL REF	PREP BATCH	Collection DATE/TIME	Received DATE/TIME
MBLK1S	ICD001SB	ND	1	NA	5.00	2.50	04/02/1315:06	04/01/1311:09	AD03-03	AD03-01	ICD001S	NA	04/01/13
LCS1S	ICD001SL	18.2	1	NA	5.00	2.50	04/02/1315:22	04/01/1311:09	AD03-04	AD03-01	ICD001S	NA	04/01/13
LCD1S	ICD001SC	18.4	1	NA	5.00	2.50	04/02/1315:38	04/01/1311:09	AD03-05	AD03-01	ICD001S	NA	04/01/13
FBR SLUDGE	C207-01	ND	1	76.8	21.6	10.8	04/02/1315:54	04/01/1311:09	AD03-06	AD03-01	ICD001S	03/22/1310:36	03/28/13

METHOD 9056  
SULFATE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SOIL  
Instrument ID : D0

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF MOIST	RL (mg/kg)	MOL (mg/kg)	Analysis DATE/TIME	Extraction DATE/TIME	LFID	CAL REF	PREP BATCH	Collection DATE/TIME	Received DATE/TIME
MBLK1S	ICD001SB	ND	1	5.00	2.50	04/02/1315:06	04/01/1311:09	AD03-03	AD03-01	ICD001S	NA	04/01/13
LCS1S	ICD001SL	47.4	1	5.00	2.50	04/02/1315:22	04/01/1311:09	AD03-04	AD03-01	ICD001S	NA	04/01/13
LCD1S	ICD001SC	47.5	1	5.00	2.50	04/02/1315:38	04/01/1311:09	AD03-05	AD03-01	ICD001S	NA	04/01/13
FBR SLUDGE	C207-011	10500	50	1080	539	04/02/1316:11	04/01/1311:09	AD03-07	AD03-01	ICD001S	03/22/1310:36	03/28/13

# QC SUMMARIES

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 9056

=====

MATRIX: SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMPLE ID: ICD001SL ICD001SC  
LAB FILE ID: AD03-04 AD03-05  
DATE EXTRACTED: 04/01/13 11:09 04/01/13 11:09 DATE COLLECTED: NA  
DATE ANALYZED: 04/02/13 15:06 04/02/13 15:38 DATE RECEIVED: 04/01/13  
PREP. BATCH: ICD001S ICD001S  
CALIB. REF: AD03-01 AD03-01

% MOISTURE: NA

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Bromide	ND	20	18.7	94	20	18.7	94	0	90-110	20

ACCESSION:

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 9056

MATRIX: SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: ICD001SL ICD001SC  
LAB FILE ID: AD03-04 AD03-05  
DATE EXTRACTED: 04/01/1311:09 04/01/1311:09  
DATE ANALYZED: 04/02/1315:06 04/02/1315:38  
PREP. BATCH: ICD001S ICD001S  
CALIB. REF: AD03-01 AD03-01

% MOISTURE: NA

DATE COLLECTED: NA  
DATE RECEIVED: 04/01/13

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chloride-Cl	ND	20	19.5	97	20	19.5	98	0	90-110	20



EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 9056

MATRIX: SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: ICD001SB ICD001SL ICD001SC  
LAB FILE ID: AD03-03 AD03-04 AD03-05  
DATE EXTRACTED: 04/01/13 11:09 04/01/13 11:09 04/01/13 11:09  
DATE ANALYZED: 04/02/13 15:06 04/02/13 15:22 04/02/13 15:38  
PREP. BATCH: ICD001S ICD001S ICD001S  
CALIB. REF: AD03-01 AD03-01 AD03-01

% MOISTURE: NA  
DATE COLLECTED: NA  
DATE RECEIVED: 04/01/13

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Fluoride-F	ND	20	20.5	102	20	20.5	102	0	90-110	20

EMAX QUALITY CONTROL DATA  
LCS/LCO ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 9056

MATRIX: SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: ICD001SB ICD001SL ICD001SC  
LAB FILE ID: A003-03 A003-04 A003-05  
DATE EXTRACTED: 04/01/13 11:09 04/01/13 11:09 04/01/13 11:09  
DATE ANALYZED: 04/02/13 15:06 04/02/13 15:22 04/02/13 15:38  
PREP. BATCH: ICD001S ICD001S ICD001S  
CALIB. REF: A003-01 A003-01 A003-01

% MOISTURE: NA

DATE COLLECTED: NA  
DATE RECEIVED: 04/01/13

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Nitrate-N	ND	10	10.1	101	10	10.1	101	0	90-110	20

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 9056

MATRIX: SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: ICD001SL ICD001SC  
LAB FILE ID: AD03-04 AD03-05  
DATE EXTRACTED: 04/01/1311:09 04/01/1311:09  
DATE ANALYZED: 04/02/1315:06 04/02/1315:38  
PREP. BATCH: ICD001S ICD001S  
CALIB. REF: AD03-01 AD03-01

% MOISTURE: NA  
DATE COLLECTED: NA  
DATE RECEIVED: 04/01/13

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Nitrite-N	ND	20	20.5	102	20	20.4	102	0	90-110	20

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 9056

MATRIX: SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: ICD001SL ICD001SC  
LAB FILE ID: AD03-04 AD03-05  
DATE EXTRACTED: 04/01/1311:09 04/01/1311:09  
DATE ANALYZED: 04/02/1315:06 04/02/1315:38  
PREP. BATCH: ICD001S ICD001S  
CALIB. REF: AD03-01 AD03-01

% MOISTURE: NA  
DATE COLLECTED: NA  
DATE RECEIVED: 04/01/13

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
ORTHOPHOSPHATE-P	ND	20	18.2	91	20	18.4	92	1	90-110	20

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 429486  
BATCH NO.: 13C207  
METHOD: METHOD 9056

MATRIX: SOIL  
DILUTION FACTOR: 1 1  
SAMPLE ID: MBLK1S  
LAB SAMP ID: ICD001SL ICD001SC  
LAB FILE ID: AD03-04 AD03-05  
DATE EXTRACTED: 04/01/13 11:09 04/01/13 11:09  
DATE ANALYZED: 04/02/13 15:06 04/02/13 15:38  
PREP. BATCH: ICD001S ICD001S  
CALIB. REF: AD03-01 AD03-01

% MOISTURE: NA  
DATE COLLECTED: NA  
DATE RECEIVED: 04/01/13

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Sulfate	ND	50	47.4	95	50	47.5	95	0	90-110	20

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
SDG : 13C207

METHOD 9056  
ORTHOPHOSPHATE BY IC

One (1) soil sample was received on 03/28/13 for Anions by IC analysis, Method 9056 in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source. Continuing calibration verifications were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for ICD001SL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated for this SDG.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

METHOD 9056  
ORTHOPHOSPHATE-P

Client : EUROFINS EATON ANALYTICAL  
Project : 429486  
Batch No. : 13C207

Matrix : SLUDGE  
Instrument ID : D0

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATE/TIME	Extraction DATE/TIME	LFID	CAL REF	PREP BATCH	Collection DATE/TIME	Received DATE/TIME
MBLK1S	ICD001SB	ND	1	NA	5.00	2.50	04/02/1315:06	04/01/1311:09	AD03-03	AD03-01	ICD001S	NA	04/01/13
LCS1S	ICD001SL	18.2	1	NA	5.00	2.50	04/02/1315:22	04/01/1311:09	AD03-04	AD03-01	ICD001S	NA	04/01/13
LCD1S	ICD001SC	18.4	1	NA	5.00	2.50	04/02/1315:38	04/01/1311:09	AD03-05	AD03-01	ICD001S	NA	04/01/13
FBR SLUDGE	C207-01	ND	1	76.8	21.6	10.8	04/02/1315:54	04/01/1311:09	AD03-06	AD03-01	ICD001S	03/22/1310:36	03/28/13

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 429486  
BATCH NO. : 13C207  
METHOD : SM 4500 PE

MATRIX : SOIL  
DILUTION FACTOR: 1  
SAMPLE ID : MBLK1S  
LAB SAMPLE ID : POD001SB  
LAB FILE ID : 13POD00112  
DATE EXTRACTED : 04/01/1313:31  
DATE ANALYZED : 04/01/1317:44  
PREP BATCH : POD001S  
CALIBRATION REF: POD001

MATRIX : SOIL  
DILUTION FACTOR: 1  
SAMPLE ID : LGS1S  
LAB SAMPLE ID : POD001SL  
LAB FILE ID : 13POD00113  
DATE EXTRACTED : 04/01/1313:31  
DATE ANALYZED : 04/01/1317:44  
PREP BATCH : POD001S  
CALIBRATION REF: POD001

MATRIX : SOIL  
DILUTION FACTOR: 1  
SAMPLE ID : LCO1S  
LAB SAMPLE ID : POD001SC  
LAB FILE ID : 13POD00114  
DATE EXTRACTED : 04/01/1313:31  
DATE ANALYZED : 04/01/1317:44  
PREP BATCH : POD001S  
CALIBRATION REF: POD001

% MOISTURE: NA

ACCESSION:

PARAMETER	MB RESULT (mg/kg)	SPIKE AMT (mg/kg)	BS RESULT (mg/kg)	BS REC (%)	SPIKE AMT (mg/kg)	BSD RESULT (mg/kg)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Phosphorus	ND	5	4.89	98	5	4.99	100	2	80-120	20



**Report Prepared for:**

Jaclyn Contreras  
Montgomery Watson Harza Labs  
750 Royal Oaks Drive  
Suite 100  
Monrovia CA 91016-3629

**REPORT OF  
LABORATORY  
ANALYSIS FOR  
PCDD/PCDF**

**Report Prepared Date:**

April 3, 2013

**Report Information:**

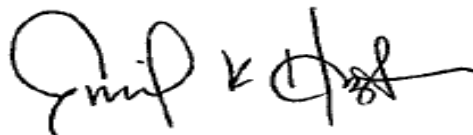
**Pace Project #: 10223720**  
**Sample Receipt Date: 03/28/2013**  
**Client Project #: 429486**  
**Client Sub PO #: 99-22845**  
**State Cert #: 200012**

**Invoicing & Reporting Options:**

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Emily Hazelroth, your Pace Project Manager.

**This report has been reviewed by:**



April 04, 2013

Emily Hazelroth, Project Manager  
(612) 607-6407  
(612) 607-6444 (fax)  
emily.hazelroth@pacelabs.com



**Report of Laboratory Analysis**

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The results relate only to the samples included in this report.



## **DISCUSSION**

This report presents the results from the analysis performed on one sample submitted by a representative of Eurofins. The sample was analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. The reporting limits were based on signal-to-noise measurements. Method blank and field sample results presented with reporting limits corresponding to the lowest calibration points and a nominal 10-gram sample amount were included in Appendix A.

Second column confirmation analyses of 2,3,7,8-TCDF values obtained from the primary (DB5-MS) column are performed only when specifically requested for a project and only when the values are above the concentration of the lowest calibration standard. Typical resolution for this isomer using the DB5-MS column ranges from 25-30%.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extract ranged from 38-70%. Except for one low value, which was flagged "R" on the results table, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. Concentrations below the calibration range were flagged "J" and should be regarded as estimates.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. The levels reported for the affected congeners in the field sample were higher than the corresponding blank levels by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field sample.

Laboratory spike samples were also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 82-119% with relative percent differences of 0.0-9.3%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were not prepared with the sample batch.

## **REPORT OF LABORATORY ANALYSIS**

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## Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Montana	92
Alaska	MN00064	Nebraska	
Arizona	AZ0014	Nevada	MN_00064_200
Arkansas	88-0680	New Jersey (NE)	MN002
California	01155CA	New Mexico	MN00064
Colorado	MN00064	New York (NEL)	11647
Connecticut	PH-0256	North Carolina	27700
EPA Region 5	WD-15J	North Dakota	R-036
EPA Region 8	8TMS-Q	Ohio	4150
Florida (NELAP)	E87605	Ohio VAP	CL101 9507
Georgia (DNR)	959	Oklahoma	D9922
Guam	959	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL)	MN300001-001
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana	C-MN-01	South Carolina	74003001
Indiana	C-MN-01	Tennessee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	03086	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q
Mississippi	MN00064		

## REPORT OF LABORATORY ANALYSIS

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Report No.....10223720

# Appendix A

## Sample Management

32813  
 1124  
 Submittal Form & Purchase Order 99-22845 10223720 Date: 3/27/2013

\*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different Folder Numbers!  
 Report & Invoice must have the Folder# 429486 Sub PO# 99-22845 and Job # 1000014

Report all quality control data according to Method. Include dates analyzed. Date extracted (if extracted) and Method reference on the report.  
 Results must have Complete data & QC with Approval Signature.

Provide in each Report the Specified State  
 Certification # & Exp. Date for requested tests  
 Matrix  
 Samples from: FLINQIS

Reports: Jackie Contreras Sub-Contracting Administrator  
 EMAIL: j101520@subcontract@eurofins.com  
 Eurofins Eaton Analytical 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016  
 Phone: (626) 386-1165 Fax: (626) 386-1122  
 Invoices to: Eurofins-Eaton Analytical  
 Accounts Payable: 2475 New Holland Pike, Lancaster, PA 17605

4-5 day rush  
 Sequester the glass, no pre-screening and pre-approved 4-5day rush

**euofins**  
 formerly WFL Laboratories

**Eaton Analytical**


Ship To:  
 1700 Southeast Elm Street, Suite 200  
 PACE Analytical Services, Inc.  
 Minneapolis, MN 55414

Phone: 612-607-6330 Fax: 612-607-6444

Folder #: 429486 Report Due: 04/03/2013 Sub PO #: 99-22845

JLS  
 EPA8290  
 201303270294 @8290\_Solid\_PM  
 Client Sample ID for reference only  
 Analysis Requested  
 Sample Date & Time Matrix PWS Systemcode PWSID  
 03/22/13 1036 DW  
 Dioxin/Furan - MDL and RL reporting  
 1022372001

Requested by: M. DeWash Sample Control: BSA  
 Received by: T. Price  
 Date: 3-27-13 Time: 1601  
 Date: 3-28-13 Time: 911  
 NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS  
 An Acknowledgement of Receipt is requested to allow Pacific Controls

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 28Jan2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.06	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Eurofins

Project #: **WO# : 10223720**

Courier:  Fed Ex  UPS  USPS  Client  
 Commercial  Pace  Other:



Tracking Number: 4294 2887 7474

Custody Seal on Cooler/Box Present?  Yes  No      Seals Intact?  Yes  No      Optional: Proj. Due Date:      Proj. Name:

Packing Material:  Bubble Wrap  Bubble Bags  None  Other:      Temp Blank?  Yes  No

Thermom. Used:  888A912167504  80512447  72997080      Type of Ice:  Wet  Blue  None  Samples on Ice, cooling process has begun

Cooler Temp Read (°C): 0.0      Cooler Temp Corrected (°C): 0.0      Biological Tissue Frozen?  Yes  No  
 Temp should be above freezing to 6°C      Correction Factor: True      Date and Initials of Person Examining Contents: 3 28 13 TN

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes Date/Time/ID/Analysis Matrix: <u>SL</u>			
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH>12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Exceptions: VOA, Collform, TOC, Oil and Grease, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Initial when completed:      Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required?  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

Project Manager Review: SLH

Date: 28 Mar 2013

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

## Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-35946	Matrix	Solid
Filename	U130402A_06	Dilution	NA
Total Amount Extracted	20.1 g	Extracted	03/28/2013 19:40
ICAL ID	U130319	Analyzed	04/02/2013 14:10
CCal Filename(s)	U130402A_01 & U130402A_13	Injected By	CVS

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	1.0	2,3,7,8-TCDF-13C	2.00	67
Total TCDF	ND	----	1.0	2,3,7,8-TCDD-13C	2.00	82
				1,2,3,7,8-PeCDF-13C	2.00	77
2,3,7,8-TCDD	ND	----	1.0	2,3,4,7,8-PeCDF-13C	2.00	75
Total TCDD	ND	----	1.0	1,2,3,7,8-PeCDD-13C	2.00	97
				1,2,3,4,7,8-HxCDF-13C	2.00	64
1,2,3,7,8-PeCDF	ND	----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	ND	----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	66
Total PeCDF	ND	----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	67
				1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	ND	----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	71
Total PeCDD	ND	----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	69
				1,2,3,4,7,8,9-HpCDF-13C	2.00	65
1,2,3,4,7,8-HxCDF	ND	----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	77
1,2,3,6,7,8-HxCDF	ND	----	5.0	OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	ND	----	5.0			
1,2,3,7,8,9-HxCDF	ND	----	5.0	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	5.0	2,3,7,8-TCDD-37Cl4	0.20	82
1,2,3,6,7,8-HxCDD	ND	----	5.0			
1,2,3,7,8,9-HxCDD	ND	----	5.0			
Total HxCDD	ND	----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	5.0	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	----	5.0	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	5.0			
Total HpCDD	ND	----	5.0			
OCDF	ND	----	10.0			
OCDD	ND	----	10.0			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).  
EMPC = Estimated Maximum Possible Concentration  
RL = Reporting Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

## REPORT OF LABORATORY ANALYSIS

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Report No.....10223720



**Method 8290 Sample Analysis Results**

Client - Montgomery Watson Harza Labs

Client's Sample ID	201303270294		
Lab Sample ID	10223720001		
Filename	U130402A_07		
Injected By	CVS		
Total Amount Extracted	40.4 g	Matrix	Solid
% Moisture	76.8	Dilution	NA
Dry Weight Extracted	9.39 g	Collected	03/22/2013 10:36
ICAL ID	U130319	Received	03/28/2013 09:11
CCal Filename(s)	U130402A_01 & U130402A_13	Extracted	03/28/2013 19:40
Method Blank ID	BLANK-35946	Analyzed	04/02/2013 14:55

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.6	-----	1.0	2,3,7,8-TCDF-13C	2.00	50
Total TCDF	23.0	-----	1.0	2,3,7,8-TCDD-13C	2.00	60
				1,2,3,7,8-PeCDF-13C	2.00	56
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	55
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	70
				1,2,3,4,7,8-HxCDF-13C	2.00	47
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	50
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	50
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	49
				1,2,3,4,7,8-HxCDD-13C	2.00	52
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	52
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	47
				1,2,3,4,7,8,9-HpCDF-13C	2.00	49
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	55
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	38 R
2,3,4,6,7,8-HxCDF	ND	-----	5.0			
1,2,3,7,8,9-HxCDF	ND	-----	5.0	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	5.0	2,3,7,8-TCDD-37Cl4	0.20	61
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	6.9	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.29 ng/Kg		
Total HpCDF	6.9	-----	5.0	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	5.0			
Total HpCDD	ND	-----	5.0			
OCDF	60.0	-----	10.0			
OCDD	ND	-----	10.0			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).  
EMPC = Estimated Maximum Possible Concentration  
RL = Reporting Limit.

ND = Not Detected  
NA = Not Applicable  
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.  
R = Recovery outside target range

**REPORT OF LABORATORY ANALYSIS**

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Report No.....10223720



## Reporting Flags

- A = Reporting Limit based on signal to noise
- B = Less than 10x higher than method blank level
- C = Result obtained from confirmation analysis
- D = Result obtained from analysis of diluted sample
- E = Exceeds calibration range
- I = Interference present
- J = Estimated value
- Nn = Value obtained from additional analysis
- P = PCDE Interference
- R = Recovery outside target range
- S = Peak saturated
- U = Analyte not detected
- V = Result verified by confirmation analysis
- X = %D Exceeds limits
- Y = Calculated using average of daily RFs
- \* = See Discussion

### REPORT OF LABORATORY ANALYSIS

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Report No.....10223720\_8290

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# Appendix B

## Sample Analysis Summary



### Method 8290 Sample Analysis Results

Client - Montgomery Watson Harza Labs

Client's Sample ID	201303270294			
Lab Sample ID	10223720001			
Filename	U130402A_07			
Injected By	CVS			
Total Amount Extracted	40.4 g	Matrix	Solid	
% Moisture	76.8	Dilution	NA	
Dry Weight Extracted	9.39 g	Collected	03/22/2013 10:36	
ICAL ID	U130319	Received	03/28/2013 09:11	
CCal Filename(s)	U130402A_01 & U130402A_13	Extracted	03/28/2013 19:40	
Method Blank ID	BLANK-35946	Analyzed	04/02/2013 14:55	

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.60	----	0.31	2,3,7,8-TCDF-13C	2.00	50
Total TCDF	23.00	----	0.31	2,3,7,8-TCDD-13C	2.00	60
				1,2,3,7,8-PeCDF-13C	2.00	56
2,3,7,8-TCDD	ND	----	0.24	2,3,4,7,8-PeCDF-13C	2.00	55
Total TCDD	ND	----	0.24	1,2,3,7,8-PeCDD-13C	2.00	70
				1,2,3,4,7,8-HxCDF-13C	2.00	47
1,2,3,7,8-PeCDF	1.60	----	0.40 J	1,2,3,6,7,8-HxCDF-13C	2.00	50
2,3,4,7,8-PeCDF	1.10	----	0.43 J	2,3,4,6,7,8-HxCDF-13C	2.00	50
Total PeCDF	13.00	----	0.41	1,2,3,7,8,9-HxCDF-13C	2.00	49
				1,2,3,4,7,8-HxCDD-13C	2.00	52
1,2,3,7,8-PeCDD	ND	----	0.31	1,2,3,6,7,8-HxCDD-13C	2.00	52
Total PeCDD	0.64	----	0.31 J	1,2,3,4,6,7,8-HpCDF-13C	2.00	47
				1,2,3,4,7,8,9-HpCDF-13C	2.00	49
1,2,3,4,7,8-HxCDF	2.40	----	0.42 J	1,2,3,4,6,7,8-HpCDD-13C	2.00	55
1,2,3,6,7,8-HxCDF	----	1.60	0.43 I	OCDD-13C	4.00	38 R
2,3,4,6,7,8-HxCDF	0.79	----	0.36 J			
1,2,3,7,8,9-HxCDF	----	0.63	0.42 P	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	9.80	----	0.41	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.29	2,3,7,8-TCDD-37Cl4	0.20	61
1,2,3,6,7,8-HxCDD	ND	----	0.38			
1,2,3,7,8,9-HxCDD	ND	----	0.32			
Total HxCDD	ND	----	0.33			
1,2,3,4,6,7,8-HpCDF	6.90	----	0.32	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	2.70	----	0.42 J	Equivalence: 1.3 ng/Kg		
Total HpCDF	11.00	----	0.37	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	----	0.81	0.36 I			
Total HpCDD	2.00	----	0.36 J			
OCDF	60.00	----	0.65			
OCDD	4.50	----	0.78 J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).  
EMPC = Estimated Maximum Possible Concentration  
RL = Reporting Limit.

ND = Not Detected  
NA = Not Applicable  
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.  
J = Estimated value  
R = Recovery outside target range  
P = PCDE Interference  
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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### Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-35946	Matrix	Solid
Filename	U130402A_06	Dilution	NA
Total Amount Extracted	20.1 g	Extracted	03/28/2013 19:40
ICAL ID	U130319	Analyzed	04/02/2013 14:10
CCal Filename(s)	U130402A_01 & U130402A_13	Injected By	CVS

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.12	----	0.055 J	2,3,7,8-TCDF-13C	2.00	67
Total TCDF	0.12	----	0.055 J	2,3,7,8-TCDD-13C	2.00	82
				1,2,3,7,8-PeCDF-13C	2.00	77
2,3,7,8-TCDD	ND	----	0.076	2,3,4,7,8-PeCDF-13C	2.00	75
Total TCDD	ND	----	0.076	1,2,3,7,8-PeCDD-13C	2.00	97
				1,2,3,4,7,8-HxCDF-13C	2.00	64
1,2,3,7,8-PeCDF	ND	----	0.065	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	ND	----	0.060	2,3,4,6,7,8-HxCDF-13C	2.00	66
Total PeCDF	ND	----	0.063	1,2,3,7,8,9-HxCDF-13C	2.00	67
				1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	ND	----	0.075	1,2,3,6,7,8-HxCDD-13C	2.00	71
Total PeCDD	ND	----	0.075	1,2,3,4,6,7,8-HpCDF-13C	2.00	69
				1,2,3,4,7,8,9-HpCDF-13C	2.00	65
1,2,3,4,7,8-HxCDF	ND	----	0.052	1,2,3,4,6,7,8-HpCDD-13C	2.00	77
1,2,3,6,7,8-HxCDF	ND	----	0.051	OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	ND	----	0.048			
1,2,3,7,8,9-HxCDF	ND	----	0.073	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.056	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.071	2,3,7,8-TCDD-37Cl4	0.20	82
1,2,3,6,7,8-HxCDD	ND	----	0.097			
1,2,3,7,8,9-HxCDD	ND	----	0.099			
Total HxCDD	ND	----	0.089			
1,2,3,4,6,7,8-HpCDF	ND	----	0.068	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.095	Equivalence: 0.013 ng/Kg		
Total HpCDF	ND	----	0.082	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.100			
Total HpCDD	0.14	----	0.100 J			
OCDF	ND	----	0.120			
OCDD	0.45	----	0.180 J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).  
EMPC = Estimated Maximum Possible Concentration  
RL = Reporting Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.  
J = Estimated value

## REPORT OF LABORATORY ANALYSIS

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### Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-35947	Matrix	Solid
Filename	U130402A_02	Dilution	NA
Total Amount Extracted	20.2 g	Extracted	03/28/2013 19:40
ICAL ID	U130319	Analyzed	04/02/2013 11:10
CCal Filename(s)	U130402A_01 & U130402A_13	Injected By	CVS
Method Blank ID	BLANK-35946		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.23	113	2,3,7,8-TCDF-13C	2.0	66
Total TCDF				2,3,7,8-TCDD-13C	2.0	82
				1,2,3,7,8-PeCDF-13C	2.0	77
2,3,7,8-TCDD	0.20	0.17	87	2,3,4,7,8-PeCDF-13C	2.0	76
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	96
				1,2,3,4,7,8-HxCDF-13C	2.0	65
1,2,3,7,8-PeCDF	1.0	1.0	104	1,2,3,6,7,8-HxCDF-13C	2.0	73
2,3,4,7,8-PeCDF	1.0	1.0	102	2,3,4,6,7,8-HxCDF-13C	2.0	69
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	68
				1,2,3,4,7,8-HxCDD-13C	2.0	74
1,2,3,7,8-PeCDD	1.0	0.90	90	1,2,3,6,7,8-HxCDD-13C	2.0	72
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	74
				1,2,3,4,7,8,9-HpCDF-13C	2.0	68
1,2,3,4,7,8-HxCDF	1.0	1.1	105	1,2,3,4,6,7,8-HpCDD-13C	2.0	81
1,2,3,6,7,8-HxCDF	1.0	1.00	100	OCDD-13C	4.0	62
2,3,4,6,7,8-HxCDF	1.0	0.98	98			
1,2,3,7,8,9-HxCDF	1.0	0.99	99	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	107	2,3,7,8-TCDD-37Cl4	0.20	79
1,2,3,6,7,8-HxCDD	1.0	1.1	106			
1,2,3,7,8,9-HxCDD	1.0	1.1	107			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	107			
1,2,3,4,7,8,9-HpCDF	1.0	0.96	96			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.94	94			
Total HpCDD						
OCDF	2.0	1.8	90			
OCDD	2.0	2.1	105			

Qs = Quantity Spiked  
Qm = Quantity Measured  
Rec. = Recovery (Expressed as Percent)  
R = Recovery outside of target range

Y = RF averaging used in calculations  
Nn = Value obtained from additional analysis  
NA = Not Applicable  
\* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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**Method 8290 Laboratory Control Spike Results**

Lab Sample ID	LCSD-35948	Matrix	Solid
Filename	U130402A_03	Dilution	NA
Total Amount Extracted	20.3 g	Extracted	03/28/2013 19:40
ICAL ID	U130319	Analyzed	04/02/2013 11:54
CCal Filename(s)	U130402A_01 & U130402A_13	Injected By	CVS
Method Blank ID	BLANK-35946		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.24	119	2,3,7,8-TCDF-13C	2.0	56
Total TCDF				2,3,7,8-TCDD-13C	2.0	71
				1,2,3,7,8-PeCDF-13C	2.0	65
2,3,7,8-TCDD	0.20	0.18	88	2,3,4,7,8-PeCDF-13C	2.0	65
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	82
				1,2,3,4,7,8-HxCDF-13C	2.0	54
1,2,3,7,8-PeCDF	1.0	1.1	113	1,2,3,6,7,8-HxCDF-13C	2.0	60
2,3,4,7,8-PeCDF	1.0	1.1	107	2,3,4,6,7,8-HxCDF-13C	2.0	56
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	53
				1,2,3,4,7,8-HxCDD-13C	2.0	61
1,2,3,7,8-PeCDD	1.0	0.95	95	1,2,3,6,7,8-HxCDD-13C	2.0	59
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	60
				1,2,3,4,7,8,9-HpCDF-13C	2.0	55
1,2,3,4,7,8-HxCDF	1.0	1.1	108	1,2,3,4,6,7,8-HpCDD-13C	2.0	66
1,2,3,6,7,8-HxCDF	1.0	1.0	104	OCDD-13C	4.0	47
2,3,4,6,7,8-HxCDF	1.0	1.1	106			
1,2,3,7,8,9-HxCDF	1.0	1.0	102	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	107	2,3,7,8-TCDD-37Cl4	0.20	71
1,2,3,6,7,8-HxCDD	1.0	1.2	116			
1,2,3,7,8,9-HxCDD	1.0	1.1	111			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	112			
1,2,3,4,7,8,9-HpCDF	1.0	1.0	102			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.98	98			
Total HpCDD						
OCDF	2.0	1.6	82			
OCDD	2.0	2.2	111			

Qs = Quantity Spiked  
Qm = Quantity Measured  
Rec. = Recovery (Expressed as Percent)  
R = Recovery outside of target range

Y = RF averaging used in calculations  
Nn = Value obtained from additional analysis  
NA = Not Applicable  
\* = See Discussion

**REPORT OF LABORATORY ANALYSIS**

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**Method 8290**

**Spike Recovery Relative Percent Difference (RPD) Results**

Client Montgomery Watson Harza Labs

Spike 1 ID LCS-35947 Spike 2 ID LCSD-35948  
Spike 1 Filename U130402A\_02 Spike 2 Filename U130402A\_03

Compound	Spike 1 %REC	Spike 2 %REC	%RPD
2,3,7,8-TCDF	113	119	5.2
2,3,7,8-TCDD	87	88	1.1
1,2,3,7,8-PeCDF	104	113	8.3
2,3,4,7,8-PeCDF	102	107	4.8
1,2,3,7,8-PeCDD	90	95	5.4
1,2,3,4,7,8-HxCDF	105	108	2.8
1,2,3,6,7,8-HxCDF	100	104	3.9
2,3,4,6,7,8-HxCDF	98	106	7.8
1,2,3,7,8,9-HxCDF	99	102	3.0
1,2,3,4,7,8-HxCDD	107	107	0.0
1,2,3,6,7,8-HxCDD	106	116	9.0
1,2,3,7,8,9-HxCDD	107	111	3.7
1,2,3,4,6,7,8-HpCDF	107	112	4.6
1,2,3,4,7,8,9-HpCDF	96	102	6.1
1,2,3,4,6,7,8-HpCDD	94	98	4.2
OCDF	90	82	9.3
OCDD	105	111	5.6

%REC = Percent Recovered  
RPD = The difference between the two values divided by the mean value

**REPORT OF LABORATORY ANALYSIS**

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**Attachment B**  
**Laboratory Analytical Report**



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-52134-1

Client Project/Site: Veolia - NERT Soils

For:

ENVIRON International Corp.

2200 Powell Street

Suite 700

Emeryville, California 94608

Attn: Kimberly Kuwabara



Authorized for release by:

7/25/2013 4:55:00 PM

Sushmitha Reddy, Project Manager I

[sushmitha.reddy@testamericainc.com](mailto:sushmitha.reddy@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Sample Summary

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-52134-3	SR-05-0.2	Solid	07/17/13 07:59	07/18/13 09:30
440-52134-5	SR-04-0.3	Solid	07/17/13 08:17	07/18/13 09:30
440-52134-7	SR-03-0.3	Solid	07/17/13 08:42	07/18/13 09:30
440-52134-9	SR-02-0.3	Solid	07/17/13 08:59	07/18/13 09:30
440-52134-11	SR-01-0.3	Solid	07/17/13 09:30	07/18/13 09:30

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# Case Narrative

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

**Job ID: 440-52134-1**

**Laboratory: TestAmerica Irvine**

## Narrative

### Job Narrative 440-52134-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 7/18/2013 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3° C.

#### GC/MS Semi VOA

Method(s) 8270C SIM: Internal standard responses were outside of acceptance limits for the following sample(s): SR-03-0.3 (440-52134-7), SR-04-0.3 (440-52134-5), SR-01-0.3 (440-52134-11), SR-02-0.3 (440-52134-9). The sample(s) shows evidence of matrix interference.

Method(s) 8270C SIM: The source sample for the MS/MSD sample was diluted due to the nature of the sample matrix: (LCS 440-119047/2-A). As such, the MS/MSD surrogate and spike recoveries were diluted out and are not reported.

No other analytical or quality issues were noted.

#### Metals

Method(s) 6010B: The following sample(s) was diluted due to the nature of the sample matrix: SR-05-0.2 (440-52134-3), SR-02-0.3 (440-52134-9), SR-03-0.3 (440-52134-7), SR-04-0.3 (440-52134-5). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

#### Organic Prep

No analytical or quality issues were noted.

# Client Sample Results

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

**Client Sample ID: SR-05-0.2**

**Lab Sample ID: 440-52134-3**

Date Collected: 07/17/13 07:59

Matrix: Solid

Date Received: 07/18/13 09:30

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		30	2.0	ug/Kg		07/22/13 10:12	07/23/13 17:45	1
Dibenz(a,h)anthracene	ND		30	2.5	ug/Kg		07/22/13 10:12	07/23/13 17:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	86		35 - 120				07/22/13 10:12	07/23/13 17:45	1
Nitrobenzene-d5	74		30 - 120				07/22/13 10:12	07/23/13 17:45	1
Terphenyl-d14	70		40 - 135				07/22/13 10:12	07/23/13 17:45	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		10	4.0	mg/Kg		07/23/13 09:10	07/23/13 20:49	25

**Client Sample ID: SR-04-0.3**

**Lab Sample ID: 440-52134-5**

Date Collected: 07/17/13 08:17

Matrix: Solid

Date Received: 07/18/13 09:30

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	99		30	2.0	ug/Kg		07/22/13 10:12	07/23/13 18:31	1
Dibenz(a,h)anthracene	9.2	J	30	2.5	ug/Kg		07/22/13 10:12	07/23/13 18:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	95		35 - 120				07/22/13 10:12	07/23/13 18:31	1
Nitrobenzene-d5	91		30 - 120				07/22/13 10:12	07/23/13 18:31	1
Terphenyl-d14	70		40 - 135				07/22/13 10:12	07/23/13 18:31	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		9.9	4.0	mg/Kg		07/23/13 15:20	07/24/13 14:24	25

**Client Sample ID: SR-03-0.3**

**Lab Sample ID: 440-52134-7**

Date Collected: 07/17/13 08:42

Matrix: Solid

Date Received: 07/18/13 09:30

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		30	2.0	ug/Kg		07/22/13 10:12	07/23/13 19:16	1
Dibenz(a,h)anthracene	ND		30	2.5	ug/Kg		07/22/13 10:12	07/23/13 19:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	87		35 - 120				07/22/13 10:12	07/23/13 19:16	1
Nitrobenzene-d5	90		30 - 120				07/22/13 10:12	07/23/13 19:16	1
Terphenyl-d14	72		40 - 135				07/22/13 10:12	07/23/13 19:16	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		10	4.1	mg/Kg		07/23/13 15:20	07/24/13 14:30	25

TestAmerica Irvine

# Client Sample Results

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

**Client Sample ID: SR-02-0.3**

**Lab Sample ID: 440-52134-9**

Date Collected: 07/17/13 08:59

Matrix: Solid

Date Received: 07/18/13 09:30

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	7.0	J	30	2.0	ug/Kg		07/22/13 10:12	07/24/13 15:14	1
Dibenz(a,h)anthracene	ND		30	2.5	ug/Kg		07/22/13 10:12	07/24/13 15:14	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	75		35 - 120				07/22/13 10:12	07/24/13 15:14	1
Nitrobenzene-d5	70		30 - 120				07/22/13 10:12	07/24/13 15:14	1
Terphenyl-d14	71		40 - 135				07/22/13 10:12	07/24/13 15:14	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.1	J	4.0	1.6	mg/Kg		07/23/13 15:20	07/24/13 14:32	10

**Client Sample ID: SR-01-0.3**

**Lab Sample ID: 440-52134-11**

Date Collected: 07/17/13 09:30

Matrix: Solid

Date Received: 07/18/13 09:30

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		30	2.0	ug/Kg		07/22/13 10:12	07/24/13 15:55	1
Dibenz(a,h)anthracene	ND		30	2.5	ug/Kg		07/22/13 10:12	07/24/13 15:55	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	87		35 - 120				07/22/13 10:12	07/24/13 15:55	1
Nitrobenzene-d5	84		30 - 120				07/22/13 10:12	07/24/13 15:55	1
Terphenyl-d14	76		40 - 135				07/22/13 10:12	07/24/13 15:55	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.6		2.0	0.80	mg/Kg		07/23/13 15:20	07/24/13 14:06	5

# Method Summary

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

Method	Method Description	Protocol	Laboratory
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



# Lab Chronicle

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

## Client Sample ID: SR-05-0.2

Date Collected: 07/17/13 07:59

Date Received: 07/18/13 09:30

## Lab Sample ID: 440-52134-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.13 g	1 mL	119047	07/22/13 10:12	QCT	TAL IRV
Total/NA	Analysis	8270C SIM		1			119303	07/23/13 17:45	AI	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	119343	07/23/13 09:10	DT	TAL IRV
Total/NA	Analysis	6010B		25			119545	07/23/13 20:49	TK	TAL IRV

## Client Sample ID: SR-04-0.3

Date Collected: 07/17/13 08:17

Date Received: 07/18/13 09:30

## Lab Sample ID: 440-52134-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.07 g	1 mL	119047	07/22/13 10:12	QCT	TAL IRV
Total/NA	Analysis	8270C SIM		1			119303	07/23/13 18:31	AI	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	119471	07/23/13 15:20	DT	TAL IRV
Total/NA	Analysis	6010B		25			119779	07/24/13 14:24	EN	TAL IRV

## Client Sample ID: SR-03-0.3

Date Collected: 07/17/13 08:42

Date Received: 07/18/13 09:30

## Lab Sample ID: 440-52134-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.02 g	1 mL	119047	07/22/13 10:12	QCT	TAL IRV
Total/NA	Analysis	8270C SIM		1			119303	07/23/13 19:16	AI	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	119471	07/23/13 15:20	DT	TAL IRV
Total/NA	Analysis	6010B		25			119779	07/24/13 14:30	EN	TAL IRV

## Client Sample ID: SR-02-0.3

Date Collected: 07/17/13 08:59

Date Received: 07/18/13 09:30

## Lab Sample ID: 440-52134-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	119047	07/22/13 10:12	QCT	TAL IRV
Total/NA	Analysis	8270C SIM		1			119672	07/24/13 15:14	AI	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	119471	07/23/13 15:20	DT	TAL IRV
Total/NA	Analysis	6010B		10			119779	07/24/13 14:32	EN	TAL IRV

## Client Sample ID: SR-01-0.3

Date Collected: 07/17/13 09:30

Date Received: 07/18/13 09:30

## Lab Sample ID: 440-52134-11

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.02 g	1 mL	119047	07/22/13 10:12	QCT	TAL IRV
Total/NA	Analysis	8270C SIM		1			119672	07/24/13 15:55	AI	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	119471	07/23/13 15:20	DT	TAL IRV

TestAmerica Irvine



# Lab Chronicle

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

**Client Sample ID: SR-01-0.3**

**Lab Sample ID: 440-52134-11**

**Date Collected: 07/17/13 09:30**

**Matrix: Solid**

**Date Received: 07/18/13 09:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		5			119779	07/24/13 14:06	EN	TAL IRV

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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# QC Sample Results

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 440-119047/1-A**  
**Matrix: Solid**  
**Analysis Batch: 119257**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 119047**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		30	2.0	ug/Kg		07/22/13 10:12	07/22/13 22:06	1
Dibenz(a,h)anthracene	ND		30	2.5	ug/Kg		07/22/13 10:12	07/22/13 22:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	87		35 - 120	07/22/13 10:12	07/22/13 22:06	1
Nitrobenzene-d5	91		30 - 120	07/22/13 10:12	07/22/13 22:06	1
Terphenyl-d14	61		40 - 135	07/22/13 10:12	07/22/13 22:06	1

**Lab Sample ID: LCS 440-119047/2-A**  
**Matrix: Solid**  
**Analysis Batch: 119257**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 119047**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Benzo[a]pyrene	66.7	59.0		ug/Kg		88	50 - 125
Dibenz(a,h)anthracene	66.7	52.4		ug/Kg		79	40 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	72		35 - 120
Nitrobenzene-d5	63		30 - 120
Terphenyl-d14	57		40 - 135

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 440-119343/1-A ^5**  
**Matrix: Solid**  
**Analysis Batch: 119545**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 119343**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.0	0.80	mg/Kg		07/23/13 09:10	07/23/13 18:30	5

**Lab Sample ID: LCS 440-119343/2-A ^5**  
**Matrix: Solid**  
**Analysis Batch: 119545**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 119343**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	49.5	48.9		mg/Kg		99	80 - 120

**Lab Sample ID: 440-51650-A-1-D MS ^5**  
**Matrix: Solid**  
**Analysis Batch: 119545**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 119343**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	1.5	J	50.0	45.8		mg/Kg		89	75 - 125

# QC Sample Results

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-51650-A-1-E MSD ^5

Matrix: Solid

Analysis Batch: 119545

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 119343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.5	J	50.0	49.6		mg/Kg		96	75 - 125	8	20

Lab Sample ID: MB 440-119471/1-A ^5

Matrix: Solid

Analysis Batch: 119779

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 119471

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.0	0.81	mg/Kg		07/23/13 15:20	07/24/13 13:51	5

Lab Sample ID: LCS 440-119471/2-A ^5

Matrix: Solid

Analysis Batch: 119779

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 119471

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	48.6		mg/Kg		97	80 - 120

Lab Sample ID: 440-52134-5 MS

Matrix: Solid

Analysis Batch: 119779

Client Sample ID: SR-04-0.3

Prep Type: Total/NA

Prep Batch: 119471

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		49.5	44.4		mg/Kg		90	75 - 125

Lab Sample ID: 440-52134-5 MSD

Matrix: Solid

Analysis Batch: 119779

Client Sample ID: SR-04-0.3

Prep Type: Total/NA

Prep Batch: 119471

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		49.5	43.0		mg/Kg		87	75 - 125	3	20

# QC Association Summary

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

## GC/MS Semi VOA

### Prep Batch: 119047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-52134-3	SR-05-0.2	Total/NA	Solid	3546	
440-52134-5	SR-04-0.3	Total/NA	Solid	3546	
440-52134-7	SR-03-0.3	Total/NA	Solid	3546	
440-52134-9	SR-02-0.3	Total/NA	Solid	3546	
440-52134-11	SR-01-0.3	Total/NA	Solid	3546	
LCS 440-119047/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-119047/1-A	Method Blank	Total/NA	Solid	3546	

### Analysis Batch: 119257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-119047/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	119047
MB 440-119047/1-A	Method Blank	Total/NA	Solid	8270C SIM	119047

### Analysis Batch: 119303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-52134-3	SR-05-0.2	Total/NA	Solid	8270C SIM	119047
440-52134-5	SR-04-0.3	Total/NA	Solid	8270C SIM	119047
440-52134-7	SR-03-0.3	Total/NA	Solid	8270C SIM	119047

### Analysis Batch: 119672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-52134-9	SR-02-0.3	Total/NA	Solid	8270C SIM	119047
440-52134-11	SR-01-0.3	Total/NA	Solid	8270C SIM	119047

## Metals

### Prep Batch: 119343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-51650-A-1-D MS ^5	Matrix Spike	Total/NA	Solid	3050B	
440-51650-A-1-E MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	
440-52134-3	SR-05-0.2	Total/NA	Solid	3050B	
LCS 440-119343/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
MB 440-119343/1-A ^5	Method Blank	Total/NA	Solid	3050B	

### Prep Batch: 119471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-52134-5	SR-04-0.3	Total/NA	Solid	3050B	
440-52134-5 MS	SR-04-0.3	Total/NA	Solid	3050B	
440-52134-5 MSD	SR-04-0.3	Total/NA	Solid	3050B	
440-52134-7	SR-03-0.3	Total/NA	Solid	3050B	
440-52134-9	SR-02-0.3	Total/NA	Solid	3050B	
440-52134-11	SR-01-0.3	Total/NA	Solid	3050B	
LCS 440-119471/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
MB 440-119471/1-A ^5	Method Blank	Total/NA	Solid	3050B	

### Analysis Batch: 119545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-51650-A-1-D MS ^5	Matrix Spike	Total/NA	Solid	6010B	119343
440-51650-A-1-E MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	119343
440-52134-3	SR-05-0.2	Total/NA	Solid	6010B	119343

TestAmerica Irvine

# QC Association Summary

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

## Metals (Continued)

### Analysis Batch: 119545 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-119343/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	119343
MB 440-119343/1-A ^5	Method Blank	Total/NA	Solid	6010B	119343

### Analysis Batch: 119779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-52134-5	SR-04-0.3	Total/NA	Solid	6010B	119471
440-52134-5 MS	SR-04-0.3	Total/NA	Solid	6010B	119471
440-52134-5 MSD	SR-04-0.3	Total/NA	Solid	6010B	119471
440-52134-7	SR-03-0.3	Total/NA	Solid	6010B	119471
440-52134-9	SR-02-0.3	Total/NA	Solid	6010B	119471
440-52134-11	SR-01-0.3	Total/NA	Solid	6010B	119471
LCS 440-119471/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	119471
MB 440-119471/1-A ^5	Method Blank	Total/NA	Solid	6010B	119471

## Definitions/Glossary

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

### Qualifiers

#### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: ENVIRON International Corp.  
Project/Site: Veolia - NERT Soils

TestAmerica Job ID: 440-52134-1

## Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-14
Arizona	State Program	9	AZ0671	10-13-13
California	LA Cty Sanitation Districts	9	10256	01-31-14
California	NELAP	9	1108CA	01-31-14
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	01-28-14 *
Hawaii	State Program	9	N/A	01-31-14
Nevada	State Program	9	CA015312007A	07-31-13
New Mexico	State Program	6	N/A	01-31-14
Northern Mariana Islands	State Program	9	MP0002	01-31-14
Oregon	NELAP	10	4005	09-12-13
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

\* Expired certification is currently pending renewal and is considered valid.

TestAmerica Irvine

**Chain of Custody Record**

Irvine  
17461 Derran Ave  
Suite 100  
Irvine, CA 92614  
phone 949 261 1022 fax 949 260.3299

TestAmerica Laboratories, Inc.

Project Manager: Wendy Prescott / KIM KUWABARA Tel/Fax: 702-371-9307		Site Contact: Wendy Prescott Lab Contact: Sushmitha Reddy		Date: 7/17/13	COC No:
Client Contact Environ - Kim Kuwabara 2200 POWELL ST. STE 700 EMERYVILLE, CA		Analysis Turnaround Time Calendar (C) or Work Days (W) WORK TAT (if different from below) <input checked="" type="checkbox"/> 5 DAY <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Carrier:	Job No.
Veolia WATER NORTH AMERICA 3010 OLD PARK PARKWAY STE.350 SEAL BEACH, CA 90410		Sample Identification		SDG No.	
Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	
7/17/13	0735	SOIL	SOIL	1	HOLD* ASBESTOS BY 6016
7/17/13	0747	SOIL	SOIL	1	HOLD* ASBESTOS BY 6016
7/17/13	0159	SOIL	SOIL	1	XX X
7/17/13	0809	SOIL	SOIL	1	HOLD* ASBESTOS BY 6016
7/17/13	0817	SOIL	SOIL	1	XX X
7/17/13	0826	SOIL	SOIL	1	HOLD* ASBESTOS BY 6016
7/17/13	0842	SOIL	SOIL	1	XX X
7/17/13	0851	SOIL	SOIL	1	HOLD* ASBESTOS BY 6016
7/17/13	0859	SOIL	SOIL	1	XX X
7/17/13	0919	SOIL	SOIL	1	HOLD* ASBESTOS BY 6016
7/17/13	0930	SOIL	SOIL	1	XX X
7/17/13	0936	SOIL	SOIL	1	HOLD* ASBESTOS BY 6016

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other  
Possible Hazard Identification  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For 1 Month

Special Instructions/QC Requirements & Comments: PLEASE SEND RESULTS TO KIM KUWABARA@ENVIRONCORP.COM  
\* PLEASE "HOLD" SAMPLES UNTIL FURTHER INSTRUCTION FROM KIM KUWABARA

Relinquished by: JAMES HILLER	Company: ENVILICON	Date/Time: 7/17/13 1042	Received by: VICKI WILSON	Company: BROWNS	Date/Time: 7/17/13 1043A
Relinquished by: VICKI WILSON	Company: BROWNS	Date/Time: 7/17/13 1355	Received by: JAMES HILLER	Company: TA	Date/Time: 7/17/13 1355
Relinquished by: JAMES HILLER	Company: TA	Date/Time: 7/17/13 1400	Received by: JAMES HILLER	Company: TA	Date/Time: 7/17/13 1400





## Login Sample Receipt Checklist

Client: ENVIRON International Corp.

Job Number: 440-52134-1

**Login Number: 52134**

**List Number: 1**

**Creator: Avila, Stephanie**

**List Source: TestAmerica Irvine**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	James Hiller
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	