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January 7, 2013

Mr. Gary McKinney
City of Anderson
Brownfield Redevelopment Program
Departments of Economic Development & Long Range Planning
120 East 8th Street
Anderson, IN 46016
(765) 648-6159

Subject: Letter Report
GM Scatterfield Road: Groundwater Investigation Report
Anderson, Madison County, Indiana
Technical Direction Document No.: S05-0008-1207-011
Document Control No.: 1907-2A-BCEG
WESTON START Contract No.: EP-S5-06-04

Dear Mr. McKinney:

Under Technical Direction Document (TDD) No. S05-0008-1207-011, the United States Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) to provide groundwater sampling of selected existing monitoring wells that are part of the GM Scatterfield Road site (Site). The objective of the groundwater sampling was to document the current concentrations of groundwater contaminants of concern (COCs) at the selected groundwater monitoring well locations.

This letter report discusses Site background and geology, groundwater sampling activities, groundwater analytical results, and a brief comparison to historical results. This letter report includes the following four attachments: **Figures**; **Tables**; **Attachment A** (photograph documentation of field activities); and **Attachment B** (laboratory analytical results and data validation reports for samples collected during the groundwater investigation).

SITE BACKGROUND

The Site is located at 2900 South Scatterfield Road, Anderson, Madison County, Indiana (**Figure 1**). The Site is located in a mixed industrial, commercial, and residential area and consists of approximately 300 acres (**Figure 2**). The Site was received by the City of Anderson via a Donation Agreement with General Motors (GM) in September 2006. The Site has been part of a Resource Conservation and Recovery Act (RCRA) corrective action during the last decade. Most of the surface and subsurface remediation work at the Site has been completed over the years; however, offsite groundwater monitoring remained the responsibility of GM until they filed bankruptcy. Under a Targeted Brownfield Assessment (TBA) grant request, the City of Anderson requested a round of monitoring well sampling at select existing well locations to



Mr. Gary McKinney
City of Anderson

- 2 -

Groundwater Investigation Report
January 7, 2013

document the current concentrations of COCs in groundwater at the selected locations. The City of Anderson has intentions to repurpose/redevelop an area of the Site.

SITE GEOLOGY

According to a report prepared by the U.S. EPA Field Investigation Team (FIT) during an investigation conducted in 1991 at the Site, the regional geology beneath top soil consists of unconsolidated glacial deposits of layered clay till interbedded with alluvial sand and gravel units. These sand and gravel units mark paleodrainage channels formed during times of glacial retreat. Underlying the glacial deposits are limestone, dolomite, and shale bedrock ranging in age from Ordovician to Devonian. According to area well logs, the depth to bedrock ranges from 22 to 168 feet (ft) below ground surface (bgs).

An aquifer is confined within the alluvial sand and gravel deposits, with clay till acting as a semipermeable confining bed between the sand and gravel units. One of the confining clay layers in the sand gravel is of considerable thickness and appears to be continuous throughout the region.

The surface of the clay till ranges in depth from 24 to 100 feet, and varies in thickness from 14 to 64 feet. Because of this confining layer between the glacial deposits and the bedrock, the aquifer of concern is limited to the upper layer of unconsolidated glacial deposits. The depth to this aquifer of concern is approximately 24 ft bgs (U.S. EPA FIT, 1991).

GROUNDWATER SAMPLING ACTIVITIES

Incorporating the monitoring wells suggested by the City of Anderson, WESTON prepared a Quality Assurance Project Plan and Sampling and Analysis Plan for groundwater sampling and analysis. On October 3 and 4, 2012 WESTON collected groundwater samples from ten monitoring wells across the site and downgradient of the Former GM Property. The monitoring well locations included: DL03-OW09, DL03-OW12S, DL03-OW12D, DL03-OW16S, DL03-OW16D, DL03-OW32S, DL03-OW32D, DL03-OW33, DL03-OW34, and DL03-OW35. **Figure 2** presents the monitoring well locations. In order to obtain samples that are representative of aquifer conditions, groundwater samples were obtained using a low-flow purging and sampling technique. Each well was purged at a rate of approximately 200 milliliter per minute (mL/min) using a bladder pump until field parameters indicated groundwater conditions to be stable. Field measurements (specific conductance, pH, oxidation-reduction potential [ORP], temperature, dissolved oxygen [DO], and turbidity) were obtained at 5-minute intervals. Groundwater sampling commenced once stabilization was achieved for three consecutive readings, pH (± 0.1 standard units), specific conductance (± 3 percent [%]), ORP (± 10 millivolts), DO (± 0.3 milligrams per liter [mg/L]), temperature (± 0.5 degrees Celsius [$^{\circ}$ C]), turbidity ($\pm 10\%$). **Table 1** presents the field parameters collected during monitoring well purging. **Attachment A** presents photographic documentation of field activities.

Based on historical VOC exceedances, groundwater samples were analyzed for the following five VOCs using U.S. EPA SW-846 Method 8260B: 1,1-dichloroethane, cis-1,2-dichloroethane, trans-1,2-dichloroethane, trichloroethene, and vinyl chloride. At the request of the U.S. EPA



Mr. Gary McKinney
City of Anderson

- 3 -

Groundwater Investigation Report
January 7, 2013

RCRA project manager, 1,1,1-trichloroethane was also analyzed and reported for all of the samples. Groundwater samples were submitted under chain of custody to a WESTON-procured laboratory, Pace Analytical Services in Indianapolis, Indiana. A field duplicate, trip blank, and equipment blank were collected for quality assurance/quality control purposes in accordance with the Sampling and Analysis Plan (SAP).

SITE HYDROGEOLOGY

Based on static water depths collected from each well prior to sampling, groundwater in the investigation area appears to be moving to the north towards the White River. **Figure 3** presents the groundwater elevations and the potentiometric surface based on the elevations.

GROUNDWATER RESULTS

Groundwater analytical results for VOCs were compared to Indiana Department of Environmental Management (IDEM) 2012 residential direct contact groundwater screening levels. Residential direct contact groundwater screening levels account for exposure through ingestion of water, dermal contact with water, and inhalation of volatiles arising from groundwater use in the home. **Table 2** presents the groundwater sampling analytical results. **Figure 4** presents the 2012 sampling locations and highlights the monitoring wells that had exceedances of the IDEM residential direct contact groundwater screening levels. **Attachment B** provides the data validation reports and validated laboratory analytical results for the samples.

Trichloroethene (TCE) was detected at concentrations ranging from 10.1 to 82.7 micrograms per liter ($\mu\text{g/L}$), exceeding the IDEM residential direct contact groundwater screening level of 5 $\mu\text{g/L}$, in groundwater samples GM-DL03-OW09-100312, GM-DL03-OW09-100312-D, GM-DL03-OW12S-100412, GM-DL03-OW16D-100412, and GM-DL03-OW16S-100412.

Cis-1,2-dichloroethene (cis-1,2-DCE) was detected at a concentration of 122 $\mu\text{g/L}$, exceeding the IDEM residential direct contact groundwater screening level of 70 $\mu\text{g/L}$, in groundwater sample GM-DL03-OW16D-100312.

1,1,1-Trichloroethane, 1,1-dichloroethane, trans-1,2-dichloroethene, and vinyl chloride were not detected at concentrations exceeding IDEM residential direct contact groundwater screening levels. Additionally, no VOCs was detected in the trip blank or equipment blank samples.

COMPARISON TO HISTORICAL RESULTS

WESTON coordinated with the City of Anderson to obtain and review groundwater sampling result tables and figures from four historical reports (Clayton Environmental Consultants – Groundwater Well Analytical Results – January 1998; Conestoga-Rover & Associates – RFI Final Report – 2001; Conestoga-Rover & Associates – Annual OMM Report #87 for 2007; and Conestoga-Rover & Associates – Annual OMM Report #90 for 2008). Each well sampled in 2012 had at least one historical data set for comparison. Historically sampled parameters included: 1,1-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, TCE, and vinyl chloride. 1,1,1-trichloroethane was historically sampled at DL03-OW9 only. Current and



Mr. Gary McKinney
City of Anderson

- 4 -

Groundwater Investigation Report
January 7, 2013

historical results are presented in **Table 3**.

At location DL03-OW9, results for 1,1,1-Trichloroethane from October 1996 through October 1997 ranged from 6,800 to 7,600 µg/L. 1,1,1-Trichloroethane was not detected during the October 2012 sampling event, suggesting a decrease from historical trends. Results from 1,1-dichloroethane from October 1996 through October 1997 ranged from 980 to 1,100 µg/L. 1,1-dichloroethane was not detected during the October 2012 sampling event, suggesting a decrease from historical trends. Results for TCE from October 1996 through October 1997 were non-detect. However, TCE was detected at a concentration of 14.1 µg/L during the October 2012 sampling event, suggesting an increase from historical trends.

At location DL03-OW12, none of the results from February 1999 through February 2000 or from the October 2012 sampling exceeded the screening levels.

At location DL03-OW12S, results for cis-1,2-DCE from February 2000 to October 2008 ranged from non-detect to 540 µg/L. Cis-1,2-DCE was not detected during the October 2012 sampling event, suggesting a decrease from historical trends. Results for TCE from February 2000 to October 2008 ranged from 0.86 to 79 µg/L. TCE was detected at a concentration of 10.1 µg/L during the October 2012 sampling event, suggesting a slight decrease from historical trends.

At location DL03-OW16D, results for cis-1,2-DCE from November 1999 to October 2008 ranged from 85 to 170 µg/L. Cis-1,2-DCE was detected at a concentration of 122 µg/L in October 2012, suggesting no significant change from historical trends. Results for TCE from November 1999 to October 2008 ranged from 56 to 120 µg/L. TCE was detected at a concentration of 82.7 µg/L during the October 2012 sampling event, suggesting no significant change from historical trends. Vinyl chloride concentrations from November 1999 to October 2008 ranged from non-detect to 51 µg/L. Vinyl chloride was not detected during the October 2012 sampling event, suggesting a decrease from historical trends.

At location DL03-OW16S, results for cis-1,2-DCE from November 1999 to October 2008 ranged from 22 to 130 µg/L. Cis-1,2-DCE was detected at a concentration of 8.1 µg/L during the October 2012 sampling event, suggesting a decrease from historical trends. Results for TCE from November 1999 to October 2008 ranged from 42 to 76 µg/L. TCE was detected at a concentration of 21.9 µg/L during the October 2012 sampling event, suggesting a slight decrease from historical trends. Vinyl chloride concentrations from November 1999 to October 2008 ranged from 1.3 to 3.7 µg/L. Vinyl chloride was not detected during the 2012 sampling event, suggesting a decrease from historical trends.

At locations DL03-OW32D and OW32S, none of the results from July 2000 or from the October 2012 sampling exceeded the screening levels.

At locations DL03-OW33 and OW34, none of the results from August 2000 or from the October 2012 sampling exceeded the screening levels.

At location DL03-OW35, none of the results from August 2000 through October 2008 or from



Mr. Gary McKinney
City of Anderson

- 5 -

Groundwater Investigation Report
January 7, 2013

the October 2012 sampling exceeded the screening levels.

SUMMARY

On October 3 and 4, 2012 WESTON collected groundwater samples from ten monitoring wells within Site area and downgradient of the Former GM Property.

- TCE was detected at concentrations ranging from 10.1 to 82.7 µg/L, exceeding the IDEM residential direct contact groundwater screening level of 5 µg/L, in groundwater samples DL03-OW09-100312, DL03-OW09-100312-D, DL03-OW12S-100412, DL03-OW16D-100412, and DL03-OW16S-100412. TCE concentrations appear to have remained steady at locations DL03-OW12S, DL03-OW16D, and DL03-OW16S. TCE had not been historically detected at DL03-OW09 but the October 2012 result and corresponding field duplicate results both exceeded the screening criteria.
- Cis-1,2-DCE was detected at a concentration of 122 µg/L, exceeding the IDEM residential direct contact groundwater screening level of 100 µg/L, in groundwater sample DL03-OW16D-100312. Cis-1,2-DCE concentrations appear to have decreased at locations DL03-OW12S and DL03-OW16S from historical levels, while concentrations at location DL03-OW16D remain steady.
- Vinyl chloride concentrations appear to have decreased at locations DL03-OW16D and DL03-OW16S.

If you have any questions or comments about the report or need additional copies, please contact me at (847) 918-4094.

Sincerely,

WESTON SOLUTIONS, INC.

A handwritten signature in blue ink that reads "Tonya Balla".

Tonya Balla
WESTON START Project Manager

Attachments:

Figures

Tables

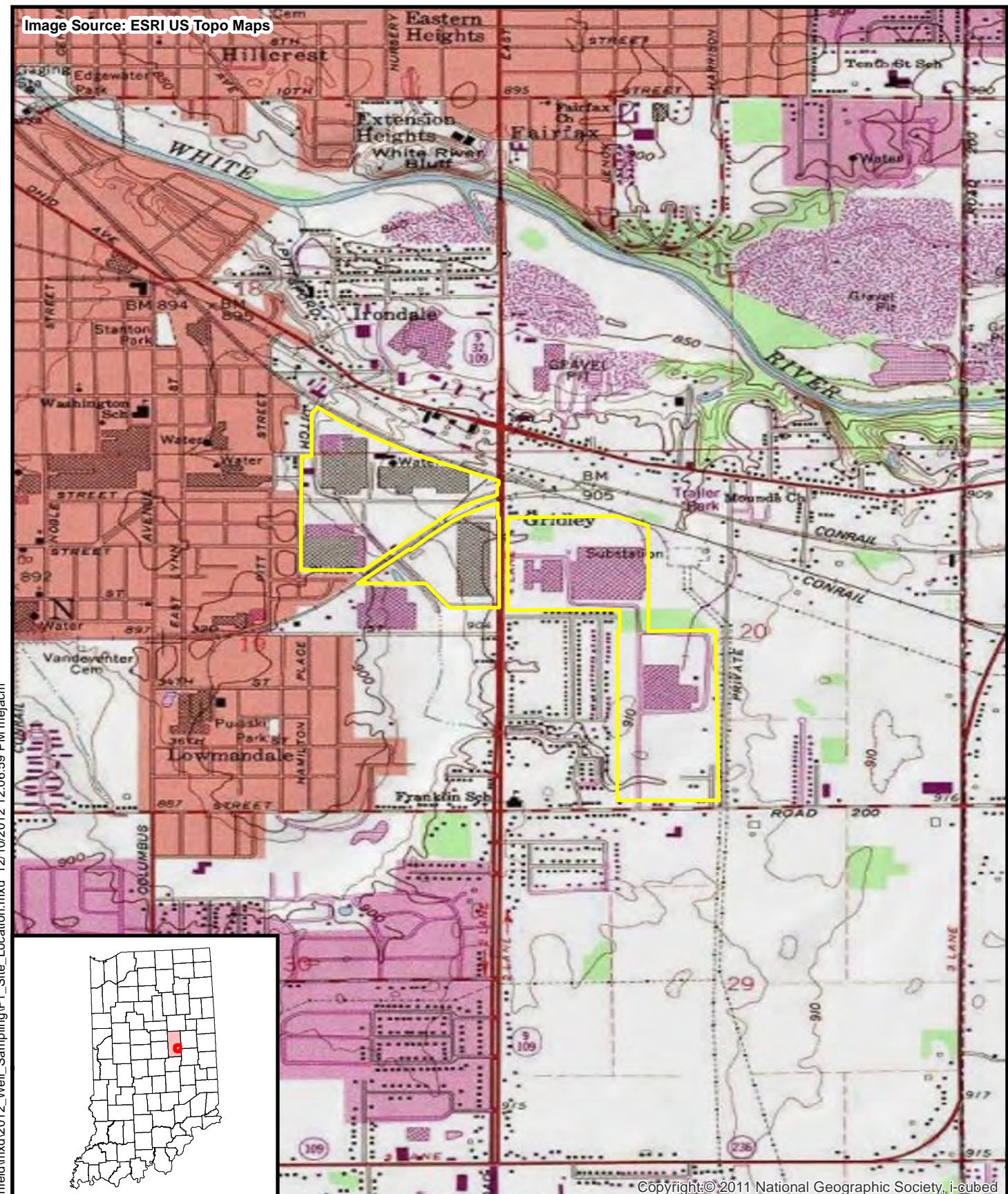
Attachment A – Photographic Documentation

Attachment B – Data Validation Report and Validated Analytical Results

cc: WESTON START DCN File
 Brad Stimple, U.S. EPA
 Don Heller, U.S. EPA
 Katie Mooney, Weston Solutions, Inc.
 file

FIGURES

Image Source: ESRI US Topo Maps



FILE: D:\GM_Scatterfield\mxd\2012_Well_Sampling\F1_Site_Location.mxd 12/10/2012 1:20:59 PM mjejacm

Legend

Former GM
Property Border



0 2,000
Feet



Prepared for:
U.S. EPA REGION V

Contract No.: EP-S5-06-04
TDD: S05-0008-1207-011
DCN: 1907-2A-BCEG



Prepared By:
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Figure 1
Site Location Map
GM Scatterfield Road Site
Anderson, Madison County, Indiana

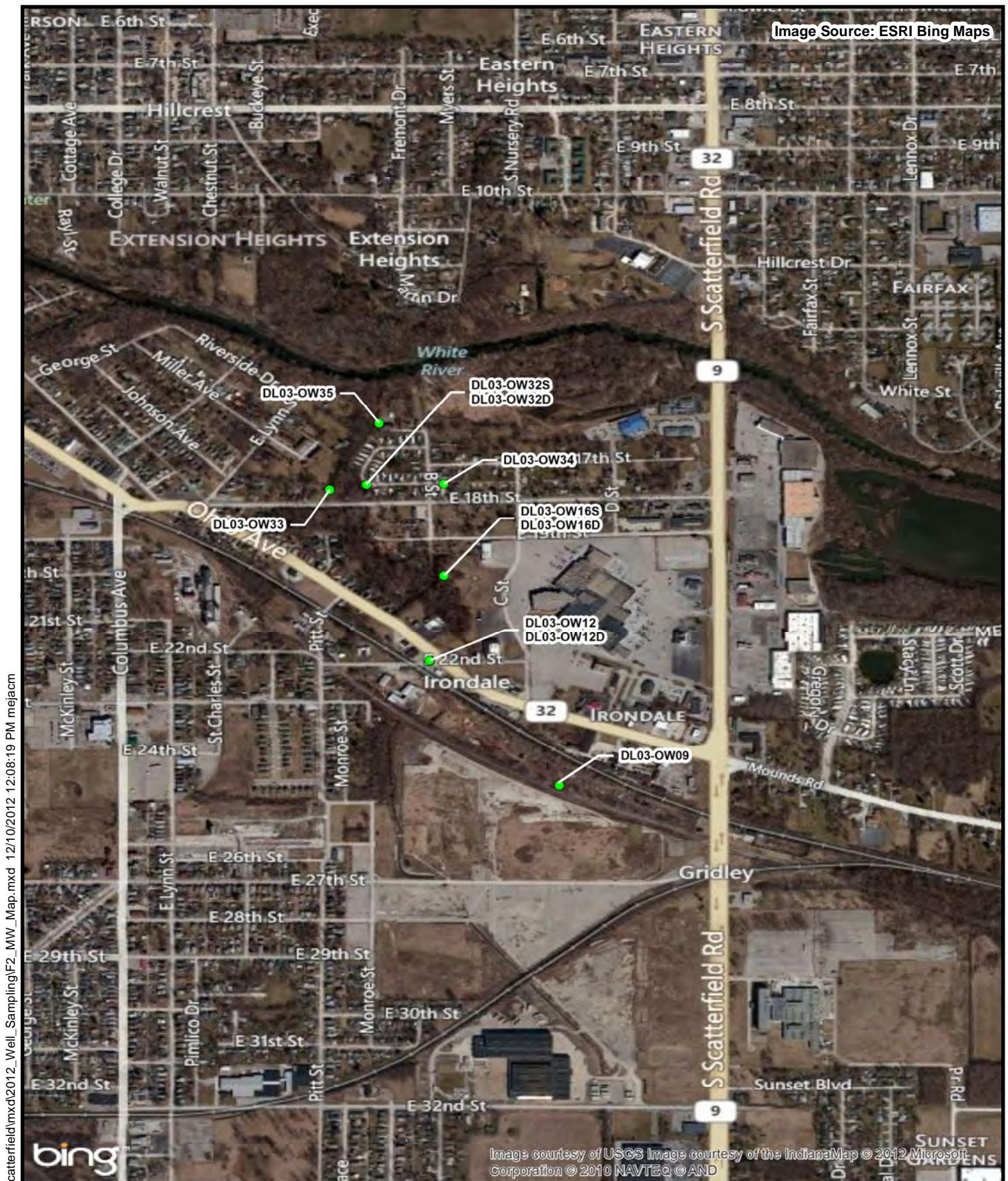


Figure 2
Monitoring Well Location Map
GM Scatterfield Road Site
Anderson, Madison County, Indiana





TABLES

Table 1
Field Parameters Collected During Monitoring Well Purging
GM Scatterfield Road Site
Anderson, Madison County, Indiana

Location ID	Purge Date	Well Volume (L)	Volume Purged (L)	Depth to Water (ft below TOC)	Specific Conductivity ($\mu\text{S}/\text{cm}$)	pH (SU)	Oxidation-Reduction Potential (mV)	Temperature (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
DL03-OW09	10/3/2012	19.8	1.5	--	936	7.18	145.6	15.40	1.7	19.4
			3.0	--	932	7.19	134.5	15.29	1.4	18.7
			4.5	--	939	7.22	121.3	15.21	1.0	15.7
			6.0	--	956	7.24	106.7	15.15	0.9	12.9
			7.5	--	966	7.26	94.9	15.16	0.7	9.34
			9.0	--	975	7.28	87.1	15.21	0.7	6.48
			10.5	--	980	7.29	81.0	15.22	0.6	7.11
DL03-OW12D	10/4/2012	6.7	1.5	21.80	574	7.93	9.6	14.97	5.0	109
			3.0	21.78	540	7.78	4.6	14.61	3.7	263
			4.5	21.73	526	7.70	3.9	15.39	3.0	267
			6.0	21.69	521	7.60	4.1	16.16	2.9	218
			7.5	21.68	516	7.56	1.8	16.34	2.9	206
			9.0	21.68	515	7.54	0.2	16.40	2.8	120
			10.5	21.68	515	7.54	-0.7	16.43	2.8	109
			12.0	21.68	515	7.53	-1.4	16.42	2.8	99.1
			13.5	21.68	515	7.53	-1.8	16.35	2.7	96.2
			15.0	21.70	515	7.53	-1.7	16.34	2.7	95.5
DL03-OW12S	10/4/2012	4.2	2.5	21.58	1011	7.30	8.5	16.36	3.3	15.5
			5.0	21.58	1013	7.25	14.2	16.20	2.5	4.56
			7.5	21.58	1013	7.23	18.3	16.16	2.4	2.2
			10.0	21.58	1013	7.21	21.6	16.13	2.3	1.91
			12.5	21.58	1013	7.20	23.1	16.13	2.4	1.1
DL03-OW16S	10/4/2012	6.4	1.5	17.00	1108	7.32	9.1	13.20	0.4	7.29
			3.0	17.01	1108	7.28	10.0	13.21	0.3	3.81
			4.5	17.01	1108	7.27	10.5	13.23	0.2	0.97
			6.0	17.01	1108	7.26	10.6	13.24	0.2	0.9
DL03-OW16D	10/4/2012	19.1	1.1	16.91	1012	7.78	1.9	14.94	7.5	144
			2.2	16.91	1045	7.49	3.3	14.23	4.9	126
			3.3	16.90	1076	7.37	2.5	13.94	1.9	86.8
			4.4	16.91	1090	7.32	0.9	13.89	1.0	43.7
			5.5	16.91	1094	7.30	-1.1	13.91	0.8	33.9
			6.6	16.91	1097	7.29	-2.1	13.85	0.6	24.9
			7.7	16.91	1099	7.28	-2.6	13.88	0.5	24.2
			8.8	16.91	1049	7.28	-2.7	13.91	0.5	25.2
DL03-OW32S	10/3/2012	4.7	1.8	16.91	767	7.68	6.9	15.97	2.4	>1000
			3.6	16.91	770	7.62	5.9	15.70	2.2	502
			5.4	16.90	774	7.60	6.2	15.57	2.3	336
			7.2	16.91	776	7.58	7.5	15.55	2.3	457
			9.0	16.91	777	7.58	8.5	15.98	2.3	138
			10.8	16.91	777	7.57	8.8	15.93	2.3	130
			12.6	16.91	777	7.57	9.2	15.92	2.2	139
DL03-OW32D	10/3/2012	32.0	1.1	15.51	1005	7.58	7.0	14.64	1.6	87.9
			2.1	15.51	1000	7.54	6.1	14.35	0.5	74.3
			3.2	15.33	999	7.52	6.7	14.22	0.4	83.7
			4.2	15.53	999	7.52	5.8	14.19	0.3	121
			5.3	15.55	1006	7.49	-20.3	14.15	0.3	189
			6.3	15.53	1009	7.49	-31.1	14.18	0.2	132
			7.4	15.51	1011	7.49	-35.9	14.10	0.2	123
			8.4	15.53	1012	7.49	-38.1	14.06	0.2	90.3
			9.5	15.51	1012	7.49	-40.8	14.09	0.2	94.3
			10.5	15.50	1013	7.49	-41.1	14.09	0.2	88.1

Table 1
Field Parameters Collected During Monitoring Well Purging
GM Scatterfield Road Site
Anderson, Madison County, Indiana

Location ID	Purge Date	Well Volume (L)	Volume Purged (L)	Depth to Water (ft below TOC)	Specific Conductivity ($\mu\text{S}/\text{cm}$)	pH (SU)	Oxidation-Reduction Potential (mV)	Temperature (°C)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
DL03-OW33	10/3/2012	4.5	1.5	30.55	1266	7.22	24.2	14.37	0.8	179
			3.0	30.54	1290	7.19	21.2	14.21	0.8	142
			4.5	30.57	1307	7.19	20.7	14.04	0.8	107
			6.0	30.57	1318	7.19	20.1	13.92	0.8	96.3
			7.5	30.58	1332	7.19	19.5	13.70	0.7	76.5
			9.0	30.58	1346	7.19	18.7	13.61	0.7	65.9
			10.5	30.57	1372	7.19	17.5	13.65	0.8	45.2
			12.0	30.57	1392	7.20	17.3	13.66	0.9	38.4
			13.5	30.57	1416	7.20	17.1	13.68	0.9	33.1
DL03-OW34	10/4/2012	15.0	45.0	14.68	--	--	--	--	--	--
DL03-OW32S	10/3/2012	16.5	2.0	11.78	681	7.44	-22.6	15.09	1.2	193
			4.0	11.80	923	7.40	-37.5	14.87	1.0	135
			6.0	11.81	992	7.40	-42.3	14.81	0.8	98.1
			8.0	11.42	1005	7.41	-44.8	14.93	0.7	103.5
			10.0	11.43	1007	7.40	-48.7	15.36	0.7	118.6
			12.0	11.43	1047	7.40	-51.6	15.18	0.7	122
			14.0	11.44	1056	7.40	-52.5	15.18	0.6	110
			16.0	11.44	1072	7.40	-54.5	15.14	0.6	85.7
			18.0	11.44	1080	7.40	-52.6	15.09	0.6	61.9
			20.0	11.45	1098	7.40	-56.1	15.09	0.3	62.7
			22.0	11.44	1103	7.41	-57.3	15.08	0.3	62.5

Notes:

% = Percent

° = Degree

$\mu\text{S}/\text{cm}$ = Microsiemens per centimeter

C = Celsius

ID = Identification

L = Liters

mg/L = Milligrams per liter

mV = Millivolts

NTU = Nephelometric turbidity unit

SU = Standard Unit

TOC = Top of casing

Table 2
Summary of Groundwater Analytical Results
GM Scatterfield Road Site
Anderson, Madison County, Indiana

		Location ID	DL03-OW09	DL03-OW09	DL03-OW12D	DL03-OW12S
		Field Sample ID	GM-DL03-OW09-100312	GM-DL03-OW09-100312-D	GM-DL03-OW12D-100412	GM-DL03-OW12S-100412
		Sample Date	10/3/2012	10/3/2012	10/4/2012	10/4/2012
Chemical Name	Action Level	Units				
1,1,1-Trichloroethane	200	µg/L	5 U	5 U	5 U	5 U
1,1-Dichloroethane	24	µg/L	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	70	µg/L	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	100	µg/L	5 U	5 U	5 U	5 U
Trichloroethene	5	µg/L	14.3	14.3	5 U	10.1
Vinyl chloride	2	µg/L	2 U	2 U	2 U	2 U

		Location ID	DL03-OW16D	DL03-OW16S	DL03-OW32D	DL03-OW32S
		Field Sample ID	GM-DL03-OW16D-100412	GM-DL03-OW16S-100412	GM-DL03-OW32D-100312	GM-DL03-OW32S-100312
		Sample Date	10/4/2012	10/4/2012	10/3/2012	10/3/2012
Chemical Name	Action Level	Units				
1,1,1-Trichloroethane	200	µg/L	5 U	5 U	5 U	5 U
1,1-Dichloroethane	24	µg/L	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	70	µg/L	122	8.1	5 U	5 U
trans-1,2-Dichloroethene	100	µg/L	7.5	5 U	5 U	5 U
Trichloroethene	5	µg/L	82.7	21.9	5 U	5 U
Vinyl chloride	2	µg/L	2 U	2 U	2 U	2 U

		Location ID	DL03-OW33	DL03-OW34	DL03-OW35
		Field Sample ID	GM-DL03-OW33-100312	GM-DL03-OW34-100412	GM-DL03-OW35-100312
		Sample Date	10/3/2012	10/4/2012	10/3/2012
Chemical Name	Action Level	Units			
1,1,1-Trichloroethane	200	µg/L	5 U	5 U	5 U
1,1-Dichloroethane	24	µg/L	5 U	5 U	5 U
cis-1,2-Dichloroethene	70	µg/L	5 U	5 U	5 U
trans-1,2-Dichloroethene	100	µg/L	5 U	5 U	5 U
Trichloroethene	5	µg/L	5 U	5 U	5 U
Vinyl chloride	2	µg/L	2 U	2 U	2 U

Notes:

■ Shaded values indicate concentration exceeds the 2012 IDEM Screening Levels - Groundwater Tap Residential

µg/L = Micrograms per liter

ID = Identification

IDEV = Indiana Department of Environmental Management

Table 3
Historical Groundwater Analytical Results
GM Scatterfield Road Site
Anderson, Madison County, Indiana

		Location ID	GM-OW09		GM-OW09		GM-OW09		GM-OW09	
		Field ID	OW09		OW09		GM-DL03-OW09-100312		GM-DL03-OW09-100312-D	
Chemical Name	Action Level	Units								
1,1,1-Trichloroethane	200	ug/L	7,600		6,800		5	U	5	U
1,1-Dichloroethane	24	ug/L	1,100		980		5	U	5	U
cis-1,2-Dichloroethene	70	ug/L	NA	-	NA	-	5	U	5	U
trans-1,2-Dichloroethene	100	ug/L	NA	-	NA	-	5	U	5	U
Trichloroethene	5	ug/L	NA	-	NA	-	14.3		14.3	
Vinyl chloride	2	ug/L	NA	-	NA	-	2	U	2	U

		Location ID	GM-OW12D		GM-OW12D		GM-OW12D	
		Field ID	OW12D		OW12D		GM-DL03-OW12D-100412	
Chemical Name	Action Level	Units						
 								
1,1,1-Trichloroethane	200	ug/L	NA	-	NA	-	5	U
1,1-Dichloroethane	24	ug/L	NA	-	NA	-	5	U
cis-1,2-Dichloroethene	70	ug/L	ND	U	ND	U	5	U
trans-1,2-Dichloroethene	100	ug/L	ND	U	ND	U	5	U
Trichloroethene	5	ug/L	ND	U	ND	U	5	U
Vinyl chloride	2	ug/L	ND	U	ND	U	2	U

		Location ID	GM-OW12S									
		Field ID	OW12S									
Chemical Name	Action Level	Units										
 												
1,1,1-Trichloroethane	200	ug/L	NA	-								
1,1-Dichloroethane	24	ug/L	NA	-								
cis-1,2-Dichloroethene	70	ug/L	140		130		ND	U	330		490	
trans-1,2-Dichloroethene	100	ug/L	5.5		ND	U	ND	U	4.2	J	5.6	J
Trichloroethene	5	ug/L	79		ND	U	0.86	J	9.9	J	19	J
Vinyl chloride	2	ug/L	ND	U	ND	U	ND	U	ND	U	25	J
											13	J

		Location ID	GM-OW12S		GM-OW12S		GM-OW12S		GM-OW12S		GM-OW12S	
		Field ID	OW12S		OW12S		OW12S		OW12S		GM-DL03-OW12S-100412	
Chemical Name	Action Level	Units										
 												
1,1,1-Trichloroethane	200	ug/L	NA	-	NA	-	NA	-	NA	-	5	U
1,1-Dichloroethane	24	ug/L	NA	-	NA	-	NA	-	NA	-	5	U
cis-1,2-Dichloroethene	70	ug/L	220	J	430		140		15		160	
trans-1,2-Dichloroethene	100	ug/L	4.6	J	5.5	J	1.9	J	1.9	J	2.6	
Trichloroethene	5	ug/L	7.2		23		8.1		8.5		24	
Vinyl chloride	2	ug/L	ND	U	ND	U	NA	-	NA	-	2	U

Table 3
Historical Groundwater Analytical Results
GM Scatterfield Road Site
Anderson, Madison County, Indiana

		Location ID	GM-OW16D											
		Field ID	OW16D											
		Sample Date	11/23/1999		2/25/2000		3/29/2003		9/10/2003		3/29/2004		9/28/2004	
		Sampler	Historical											
Chemical Name	Action Level	Units												
1,1,1-Trichloroethane	200	ug/L	NA	-										
1,1-Dichloroethane	24	ug/L	NA	-										
cis-1,2-Dichloroethene	70	ug/L	85		120		97		89		130		130	
trans-1,2-Dichloroethene	100	ug/L	5		7.2		5.3		2.7		7.3		6.8	
Trichloroethene	5	ug/L	88		120		85		56		97		98	
Vinyl chloride	2	ug/L	3		2.9		2.2 J		1.1 J		3.9 J		51	

		Location ID	GM-OW16D		GM-OW16D									
		Field ID	OW16D		OW16D		OW16D		OW16D		OW16D-DP		GM-DL03-OW16D-100412	
		Sample Date	9/20/2005		3/8/2006		10/11/2007		10/7/2008		10/7/2008		10/4/2012	
		Sampler	Historical		START/EPA									
Chemical Name	Action Level	Units												
1,1,1-Trichloroethane	200	ug/L	NA	-	5	U								
1,1-Dichloroethane	24	ug/L	NA	-	5	U								
cis-1,2-Dichloroethene	70	ug/L	120 J		150		170		100		100		122	
trans-1,2-Dichloroethene	100	ug/L	7		8.8		7.3 J		0.77		0.75		7.5	
Trichloroethene	5	ug/L	99		100		110		61		60		82.7	
Vinyl chloride	2	ug/L	5.1		4.6 J		3.3		0.5 U		0.5 U		2	U

		Location ID	GM-OW16S											
		Field ID	OW16S		OW16S-DP		OW16S		OW16S-DP		OW16S		OW16S	
		Sample Date	11/23/1999		11/23/1999		2/28/2000		2/28/2000		3/29/2003		9/10/2003	
		Sampler	START/EPA		Historical									
Chemical Name	Action Level	Units												
1,1,1-Trichloroethane	200	ug/L	NA	-										
1,1-Dichloroethane	24	ug/L	NA	-										
cis-1,2-Dichloroethene	70	ug/L	110		120		110		110		130		100	
trans-1,2-Dichloroethene	100	ug/L	7		7		6.1		6.2		6.4		4	
Trichloroethene	5	ug/L	54		58		51		52		57		44	
Vinyl chloride	2	ug/L	3		6		2.3		2.5		3.4 J		3.1 J	

		Location ID	GM-OW16S		GM-OW16S									
		Field ID	OW16S		GM-DL03-OW16S-100412									
		Sample Date	9/28/2004		3/15/2005		9/20/2005		3/8/2006		10/11/2007		10/7/2008	
		Sampler	Historical		START/EPA									
Chemical Name	Action Level	Units												
1,1,1-Trichloroethane	200	ug/L	NA	-	5	U								
1,1-Dichloroethane	24	ug/L	NA	-	5	U								
cis-1,2-Dichloroethene	70	ug/L	73		60		42		45		35		22	
trans-1,2-Dichloroethene	100	ug/L	3.4		3.1		2.3		2.8 J		1.5 J		1 J	
Trichloroethene	5	ug/L	76		68		72		70		75		42	
Vinyl chloride	2	ug/L	2.8		2.1 J		1.8		1.6 J		1.3		1.3	

Table 3
Historical Groundwater Analytical Results
GM Scatterfield Road Site
Anderson, Madison County, Indiana

		Location ID	GM-OW32D		GM-OW32D	
		Field ID	OW32D		GM-DL03-OW32D-100312	
		Sample Date	7/27/2000		10/3/2012	
		Sampler	Historical		START/EPA	
Chemical Name	Action Level	Units				
1,1,1-Trichloroethane	200	ug/L	NA	-	5	U
1,1-Dichloroethane	24	ug/L	NA	-	5	U
cis-1,2-Dichloroethene	70	ug/L	ND	U	5	U
trans-1,2-Dichloroethene	100	ug/L	ND	U	5	U
Trichloroethene	5	ug/L	ND	U	5	U
Vinyl chloride	2	ug/L	ND	U	2	U

		Location ID	GM-OW32S		GM-OW32S	
		Field ID	OW32S		GM-DL03-OW32S-100312	
		Sample Date	7/27/2000		10/3/2012	
		Sampler	Historical		START/EPA	
Chemical Name	Action Level	Units				
1,1,1-Trichloroethane	200	ug/L	NA	-	5	U
1,1-Dichloroethane	24	ug/L	NA	-	5	U
cis-1,2-Dichloroethene	70	ug/L	5.9		5	U
trans-1,2-Dichloroethene	100	ug/L	ND	U	5	U
Trichloroethene	5	ug/L	3.2		5	U
Vinyl chloride	2	ug/L	ND	U	2	U

		Location ID	GM-OW33		GM-OW33	
		Field ID	OW33		OW33-DP	GM-DL03-OW33-100312
		Sample Date	8/1/2000		8/1/2000	10/3/2012
		Sampler	Historical		Historical	START/EPA
Chemical Name	Action Level	Units				
1,1,1-Trichloroethane	200	ug/L	NA	-	NA	-
1,1-Dichloroethane	24	ug/L	NA	-	NA	-
cis-1,2-Dichloroethene	70	ug/L	ND	U	ND	U
trans-1,2-Dichloroethene	100	ug/L	ND	U	ND	U
Trichloroethene	5	ug/L	ND	U	ND	U
Vinyl chloride	2	ug/L	ND	U	ND	U

		Location ID	GM-OW34		GM-OW34	
		Field ID	OW34		GM-DL03-OW34-100412	
		Sample Date	8/1/2000		10/4/2012	
		Sampler	Historical		START/EPA	
Chemical Name	Action Level	Units				
1,1,1-Trichloroethane	200	ug/L	NA	-	5	U
1,1-Dichloroethane	24	ug/L	NA	-	5	U
cis-1,2-Dichloroethene	70	ug/L	ND	U	5	U
trans-1,2-Dichloroethene	100	ug/L	ND	U	5	U
Trichloroethene	5	ug/L	ND	U	5	U
Vinyl chloride	2	ug/L	ND	U	2	U

Table 3
Historical Groundwater Analytical Results
GM Scatterfield Road Site
Anderson, Madison County, Indiana

		Location ID	GM-OW35											
		Field ID	OW35											
		Sample Date	8/1/2000	3/29/2003	9/10/2003	3/29/2004	9/28/2004	3/14/2005	9/20/2005					
		Sampler	Historical											
Chemical Name	Action Level	Units												
1,1,1-Trichloroethane	200	ug/L	NA	-										
1,1-Dichloroethane	24	ug/L	NA	-										
cis-1,2-Dichloroethene	70	ug/L	ND	U										
trans-1,2-Dichloroethene	100	ug/L	ND	U										
Trichloroethene	5	ug/L	ND	U										
Vinyl chloride	2	ug/L	ND	U										

		Location ID	GM-OW35		GM-OW35		GM-OW35		GM-OW35		GM-OW35		GM-OW35	
		Field ID	OW35	OW35	OW35	OW35	GM-DL03-OW35-100312							
		Sample Date	3/8/2006	10/11/2007	10/7/2008	10/3/2012								
		Sampler	Historical	Historical	Historical	START/EPA								
Chemical Name	Action Level	Units												
1,1,1-Trichloroethane	200	ug/L	NA	-	NA	-	NA	-	5	U				
1,1-Dichloroethane	24	ug/L	NA	-	NA	-	NA	-	5	U				
cis-1,2-Dichloroethene	70	ug/L	ND	U	ND	U	ND	U	5	U				
trans-1,2-Dichloroethene	100	ug/L	ND	U	ND	U	ND	U	5	U				
Trichloroethene	5	ug/L	ND	U	ND	U	ND	U	5	U				
Vinyl chloride	2	ug/L	ND	U	ND	U	ND	U	2	U				

Notes:

■ Shaded values indicate concentration exceeds the 2012 IDEM Screening Levels - Groundwater Tap Residential
ID = Identification

IDEF = Indiana Department of Environmental Management
mg/L = Milligrams per liter
NA = Sample not analyzed for specific parameter

ATTACHMENT A
PHOTOGRAPHIC DOCUMENTATION



Site: GM Scatterfield Road

Photograph No.: 1

Date: 10/4/2012

Direction: South

Photographer: David Sena

Subject: WESTON purging monitoring well DL03-OW09.



Site: GM Scatterfield Road

Photograph No.: 2

Date: 10/4/2012

Direction: North

Photographer: David Sena

Subject: WESTON purging monitoring well DL03-OW35.



Site: GM Scatterfield Road

Photograph No.: 3

Direction: East

Subject: Monitoring wells DL03-OW12S and DL03-OW12D.

Date: 10/2/2012

Photographer: David Sena



Site: GM Scatterfield Road

Photograph No.: 4

Direction: Southeast

Subject: Additional off-site monitoring wells DL03-OW08S and DL03-OW08D, not sampled by WESTON.

Date: 10/2/2012

Photographer: David Sena

ATTACHMENT B
LABORATORY ANALYTICAL RESULTS AND DATA VALIDATION
REPORTS

**GM SCATTERFIELD SITE
ANDERSON, INDIANA
DATA VALIDATION REPORT**

Date: October 30, 2012

Laboratory: Pace Analytical Services, Inc. (Pace), Indianapolis, IN

Laboratory Project #: 5070388

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON[®]) Superfund Technical Assessment and Response Team (START)

Weston Analytical Work Order: 20405.012.008.1907.01

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for 13 water samples plus one trip blank collected for the GM Scatterfield Site that were analyzed for the following parameters and U.S. Environmental Protection Agency (U.S. EPA) methods:

- Volatile Organic Compounds (VOC) by SW-846 Method 8260
- Toxicity Characteristic Leaching Procedure (TCLP) VOCs by SW-846 Methods 1311 and 8260
- TCLP SVOCs by SW-846 Methods 1311 and 8270
- Polychlorinated Biphenyls (PCB) by SW-846 Method 8082
- TCLP Pesticides by SW-846 Methods 1311 and 8081
- TCLP Metals by SW-846 Methods 1311, 6010, and 7470
- pH by Standard Method (SM) 4500-H-B
- Flashpoint by SW-846 Method 1010

A level II data package was requested from Pace. The data validation was conducted in general accordance with the U.S. EPA “Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review” dated June 2008 and “Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review” dated January 2010. The Attachment contains the results summary sheets with the hand-written qualifiers applied during data validation.

Data Validation Report
GM Scatterfield Site
Pace Analytical Laboratories, Inc.
Laboratory Project #: 5070388

VOCs by SW-846 METHOD 8260

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
GM-DL03-OW09-100312	5070388001	Water	10/3/2012	10/14/2012
GM-DL03-OW09-100312-D	5070388002	Water	10/3/2012	10/14/2012
GM-DL03-OW33-100312	5070388003	Water	10/3/2012	10/14/2012
GM-DL03-OW35-100312	5070388004	Water	10/3/2012	10/14/2012
GM-DL03-OW32S-100312	5070388005	Water	10/3/2012	10/14/2012
GM-DL03-OW32D-100312	5070388006	Water	10/3/2012	10/14/2012
GM-DL03-OW12S-100412	5070388007	Water	10/4/2012	10/14/2012
GM-DL03-OW12D-100412	5070388008	Water	10/4/2012	10/14/2012
GM-DL03-OW34-100412	5070388009	Water	10/4/2012	10/14/2012
GM-DL03-OW16D-100412	5070388010	Water	10/4/2012	10/14/2012
GM-DL03-OW16S-100412	5070388011	Water	10/4/2012	10/14/2012
GM-DL03-Rinsate-100412	5070388012	Water	10/4/2012	10/14/2012
GM-Trip Blank	5070388013	Water	10/4/2012	10/14/2012

2. Holding Times

The samples were analyzed within the required holding time limit of 14 days from sample collection.

3. Blanks

Method blanks were analyzed with the VOC analyses. The method blanks were free of target compound contamination above the reporting limits. The rinsate blank and trip blank were also free of target compound contamination above the reporting limits.

4. Surrogate Results

The surrogate recovery results were within the laboratory-established quality control (QC) limits.

Data Validation Report
GM Scatterfield Site
Pace Analytical Laboratories, Inc.
Laboratory Project #: 5070388

5. Laboratory Control Sample (LCS) Results

The LCS recoveries were within laboratory QC limits except for as follows. In one of the two LCSs analyzed, cis-1,2-Dichloroethene was detected 2 percent below the QC limit. No qualification was applied for this minor discrepancy.

6. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

An MS and MSD were analyzed using sample GM-DL03-OW12D-100412 as the spiked sample. The percent recoveries and relative percent differences (RPD) were with QC limits.

7. Field Duplicate Results

Sample GM-DL03-OW09-100312-D is a field duplicate of sample GM-DL03-OW09-100312. The results between the two samples were the same indicating good correlation between the samples.

8. Overall Assessment

The VOC data are acceptable for use qualified based on the information received.

TCLP VOCs by SW-846 METHODS 1311 AND 8260

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
GM-IDW-100412	5070388014	Water	10/4/2012	10/11/2012

2. Holding Times

The sample was analyzed within the required holding time limit of 14 days from sample collection.

3. Blanks

A method blank was analyzed with the TCLP VOC analysis and was free of target compound contamination above the reporting limit.

Data Validation Report
GM Scatterfield Site
Pace Analytical Laboratories, Inc.
Laboratory Project #: 5070388

4. Surrogate Results

The surrogate recovery results were within the laboratory-established QC limits except for one which was detected slightly above the QC limit. No qualification is required for one surrogate being outside QC limits.

5. LCS Results

The LCS recoveries were within laboratory QC limits.

6. Overall Assessment

The TCLP VOC data are acceptable for use based on the information received.

TCLP SVOCs BY SW-846 METHODS 1311 AND 8270

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
GM-IDW-100412	5070388014	Water	10/4/2012	10/10/2012	10/10/2012

2. Holding Times

The sample was analyzed within the required holding time limit of 7 days from sample collection to extraction and 40 days from extraction to analysis.

3. Blanks

A method blank was analyzed with the TCLP SVOC analysis and was free of target compound contamination above the reporting limits.

4. Surrogate Results

The surrogate recoveries were within the laboratory-established QC limits.

Data Validation Report
GM Scatterfield Site
Pace Analytical Laboratories, Inc.
Laboratory Project #: 5070388

5. LCS Results

The percent recoveries for the LCS results were within the laboratory-established QC limits.

6. MS Results

A site-specific MS was analyzed using sample GM-IDW-100412 as the spiked sample. The percent recoveries were within QC limits.

7. Overall Assessment

The TCLP SVOC data are acceptable for use based on the information received.

PCBs BY U.S. EPA SW-846 METHOD 8082

1. Samples

The following table summarizes the samples for which this data validation was conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
GM-IDW-100412	5070388014	Water	10/4/2012	10/8/2012	10/9/2012

2. Holding Times

The sample was analyzed within the required holding time limit of 7 days from sample collection to extraction and 40 days from extraction to analysis.

3. Blanks

A method blank was analyzed with the PCB analyses and the method blank was free of target compound contamination above the reporting limit.

4. Surrogates

The surrogate recovery was within QC limits.

5. LCS Results

The LCS recoveries were within the laboratory-established QC limits.

Data Validation Report
GM Scatterfield Site
Pace Analytical Laboratories, Inc.
Laboratory Project #: 5070388

6. Overall Assessment

The PCB data are acceptable for use based on the information received.

TCLP PESTICIDES BY U.S. EPA SW-846 METHODS 1311 AND 8081

1. Samples

The following table summarizes the samples for which this data validation was conducted.

Samples	Lab ID	Matrix	Date Collected	Date Leached/ Prepared	Date Analyzed
GM-IDW-100412	5070388014	Water	10/4/2012	10/9/2012 10/16/2012	10/17/2012

2. Holding Times

The sample was analyzed within the required holding time limit of 14 days to leachate extraction; 7 days from leachate extraction to preparative extraction; and 40 days from preparative extraction to analysis.

3. Blanks

Method blanks were analyzed with the TCLP pesticide analyses. The method blanks were free of target compound contamination above the reporting limit. TCLP pesticides were detected below the reporting limit in the method blanks and at similar concentrations as the detected pesticide results for endrin, heptachlor epoxide, and methoxychlor. These TCLP pesticides were flagged "U" as not detected.

4. Surrogates

The surrogate recoveries were within QC limits.

5. LCS Results

The LCS recoveries were within the laboratory-established QC limits.

Data Validation Report
GM Scatterfield Site
Pace Analytical Laboratories, Inc.
Laboratory Project #: 5070388

6. Overall Assessment

The TCLP pesticide data are acceptable for use as qualified based on the information received.

TCLP METALS BY SW-846 METHODS 1311, 6010, AND 7470

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
GM-IDW-100412	5070388014	Water	10/4/2012	10/11/2012

2. Holding Times

The sample was analyzed within the required holding time limit of 28 days from sample collection to analysis for mercury and 180 days from sample collection to analysis for all other metals.

3. Blank Results

Method blanks were analyzed with the metals analysis. The blanks were free of target analyte contamination above the reporting limits.

4. LCS Results

The LCS and LCS duplicate recoveries and RPDs were within the laboratory-established QC limits for target analytes.

5. MS Results

A site-specific MS was analyzed using sample GM-IDW-100412 as the spiked sample. The percent recoveries were within QC limits.

6. Overall Assessment

The TCLP metals data are acceptable for use based on the information received.

Data Validation Report
GM Scatterfield Site
Pace Analytical Laboratories, Inc.
Laboratory Project #: 5070388

GENERAL CHEMISTRY PARAMETERS (pH by SM 4500-H-B and Flashpoint by SW-846 Method 1010)

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
GM-IDW-100412	5070388014	Water	10/4/2012	10/4/2012 – 10/8/2012

2. Holding Times

The holding times were acceptable. Note that the laboratory flagged the pH result with “H6” to indicate that the analysis initiated outside of the 15 minute U.S. EPA recommended holding time. However, the sample was analyzed in less than 2 hours from sample collection.

3. Laboratory Duplicate Results

A laboratory duplicate was analyzed with the pH analysis. The RPD was 0.4 percent which is acceptable.

4. Overall Assessment

The pH and flashpoint data are acceptable for use based on the information received.

Data Validation Report
GM Scatterfield Site
Pace Analytical Laboratories, Inc.
Laboratory Project #: 5070388

ATTACHMENT

**PACE ANALYTICAL SERVICES, INC.
RESULTS SUMMARY WITH QUALIFIERS**

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW09-100312 Lab ID: 5070388001 Collected: 10/03/12 12:40 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 12:39	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 12:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 12:39	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 12:39	71-55-6	
Trichloroethene	14.3	ug/L	5.0	1		10/14/12 12:39	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 12:39	75-01-4	
Surrogates								
Dibromofluoromethane (S)	96 %.		83-123	1		10/14/12 12:39	1868-53-7	
4-Bromofluorobenzene (S)	91 %.		72-125	1		10/14/12 12:39	460-00-4	
Toluene-d8 (S)	96 %.		81-114	1		10/14/12 12:39	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW09-100312-D Lab ID: 5070388002 Collected: 10/03/12 12:40 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 13:12	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 13:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 13:12	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 13:12	71-55-6	
Trichloroethene	14.3	ug/L	5.0	1		10/14/12 13:12	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 13:12	75-01-4	
Surrogates								
Dibromofluoromethane (S)	95 %.		83-123	1		10/14/12 13:12	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 13:12	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 13:12	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW33-100312 Lab ID: 5070388003 Collected: 10/03/12 14:15 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 13:44	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 13:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 13:44	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 13:44	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 13:44	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 13:44	75-01-4	
Surrogates								
Dibromofluoromethane (S)	92 %.		83-123	1		10/14/12 13:44	1868-53-7	
4-Bromofluorobenzene (S)	91 %.		72-125	1		10/14/12 13:44	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 13:44	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW35-100312 Lab ID: 5070388004 Collected: 10/03/12 15:33 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 14:17	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 14:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 14:17	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 14:17	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 14:17	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 14:17	75-01-4	
Surrogates								
Dibromofluoromethane (S)	96 %.		83-123	1		10/14/12 14:17	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 14:17	460-00-4	
Toluene-d8 (S)	96 %.		81-114	1		10/14/12 14:17	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW32S-100312 Lab ID: 5070388005 Collected: 10/03/12 17:20 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 14:50	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 14:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 14:50	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 14:50	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 14:50	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 14:50	75-01-4	
Surrogates								
Dibromofluoromethane (S)	96 %.		83-123	1		10/14/12 14:50	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 14:50	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 14:50	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW32D-100312 Lab ID: 5070388006 Collected: 10/03/12 18:40 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 15:23	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 15:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 15:23	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 15:23	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 15:23	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 15:23	75-01-4	
Surrogates								
Dibromofluoromethane (S)	99 %.		83-123	1		10/14/12 15:23	1868-53-7	
4-Bromofluorobenzene (S)	91 %.		72-125	1		10/14/12 15:23	460-00-4	
Toluene-d8 (S)	97 %.		81-114	1		10/14/12 15:23	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW12S-100412 Lab ID: 5070388007 Collected: 10/04/12 09:50 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 15:56	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 15:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 15:56	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 15:56	71-55-6	
Trichloroethene	10.1	ug/L	5.0	1		10/14/12 15:56	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 15:56	75-01-4	
Surrogates								
Dibromofluoromethane (S)	97 %.		83-123	1		10/14/12 15:56	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 15:56	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 15:56	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW12D-100412 Lab ID: 5070388008 Collected: 10/04/12 08:49 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 16:28	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 16:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 16:28	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 16:28	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 16:28	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 16:28	75-01-4	
Surrogates								
Dibromofluoromethane (S)	97 %.		83-123	1		10/14/12 16:28	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 16:28	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 16:28	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW34-100412 Lab ID: 5070388009 Collected: 10/04/12 11:45 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 18:07	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 18:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 18:07	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 18:07	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 18:07	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 18:07	75-01-4	
Surrogates								
Dibromofluoromethane (S)	99 %.		83-123	1		10/14/12 18:07	1868-53-7	
4-Bromofluorobenzene (S)	93 %.		72-125	1		10/14/12 18:07	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 18:07	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW16D-100412 Lab ID: 5070388010 Collected: 10/04/12 13:40 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 18:39	75-34-3	
cis-1,2-Dichloroethene	122	ug/L	5.0	1		10/14/12 18:39	156-59-2	
trans-1,2-Dichloroethene	7.5	ug/L	5.0	1		10/14/12 18:39	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 18:39	71-55-6	
Trichloroethene	82.7	ug/L	5.0	1		10/14/12 18:39	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 18:39	75-01-4	
Surrogates								
Dibromofluoromethane (S)	99 %.		83-123	1		10/14/12 18:39	1868-53-7	
4-Bromofluorobenzene (S)	91 %.		72-125	1		10/14/12 18:39	460-00-4	
Toluene-d8 (S)	94 %.		81-114	1		10/14/12 18:39	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW16S-100412 Lab ID: 5070388011 Collected: 10/04/12 14:30 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND ug/L		5.0	1		10/14/12 01:37	75-34-3	
cis-1,2-Dichloroethene	8.1 ug/L		5.0	1		10/14/12 01:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		5.0	1		10/14/12 01:37	156-60-5	
1,1,1-Trichloroethane	ND ug/L		5.0	1		10/14/12 01:37	71-55-6	
Trichloroethene	21.9 ug/L		5.0	1		10/14/12 01:37	79-01-6	
Vinyl chloride	ND ug/L		2.0	1		10/14/12 01:37	75-01-4	
Surrogates								
Dibromofluoromethane (S)	94 %.		83-123	1		10/14/12 01:37	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 01:37	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 01:37	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-Rinsate-100412	Lab ID: 5070388012	Collected: 10/04/12 13:50	Received: 10/04/12 16:29	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 02:09	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 02:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 02:09	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 02:09	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 02:09	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 02:09	75-01-4	
Surrogates								
Dibromofluoromethane (S)	94 %.		83-123	1		10/14/12 02:09	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 02:09	460-00-4	
Toluene-d8 (S)	94 %.		81-114	1		10/14/12 02:09	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-Trip Blank	Lab ID: 5070388013	Collected: 10/04/12 13:50	Received: 10/04/12 16:29	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 02:42	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 02:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 02:42	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 02:42	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 02:42	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 02:42	75-01-4	
Surrogates								
Dibromofluoromethane (S)	94 %.		83-123	1		10/14/12 02:42	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 02:42	460-00-4	
Toluene-d8 (S)	96 %.		81-114	1		10/14/12 02:42	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-IDW-100412	Lab ID: 5070388014	Collected: 10/04/12 15:00	Received: 10/04/12 16:29	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, TCLP	Analytical Method: EPA 8081							
gamma-BHC (Lindane)	ND ug/L		10.0	1	10/16/12 12:00	10/17/12 02:50	58-89-9	
Chlordane (Technical)	ND ug/L		10.0	1	10/16/12 12:00	10/17/12 02:50	57-74-9	
Endrin	-0.0203 ug/L		1.0	1	10/16/12 12:00	10/17/12 02:50	72-20-8	
Heptachlor epoxide	0.0127 ug/L		0.50	1	10/16/12 12:00	10/17/12 02:50	1024-57-3	
Methoxychlor	0.0561 ug/L		100	1	10/16/12 12:00	10/17/12 02:50	72-43-5	
Toxaphene	ND ug/L		50.0	1	10/16/12 12:00	10/17/12 02:50	8001-35-2	
Surrogates								
Decachlorobiphenyl (S)	75 %		30-150	1	10/16/12 12:00	10/17/12 02:50	2051-24-3	
Tetrachloro-m-xylene (S)	52 %		30-150	1	10/16/12 12:00	10/17/12 02:50	877-09-8	
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	12674-11-2	
PCB-1221 (Aroclor 1221)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	11104-28-2	
PCB-1232 (Aroclor 1232)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	11141-16-5	
PCB-1242 (Aroclor 1242)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	53469-21-9	
PCB-1248 (Aroclor 1248)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	12672-29-6	
PCB-1254 (Aroclor 1254)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	11097-69-1	
PCB-1260 (Aroclor 1260)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	84 %.		39-110	1	10/08/12 15:21	10/09/12 20:03	877-09-8	
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Leachate Method/Date: EPA 1311; 10/09/12 00:00							
Arsenic	ND mg/L		0.010	1	10/11/12 02:00	10/11/12 08:58	7440-38-2	
Barium	ND mg/L		0.50	1	10/11/12 02:00	10/11/12 08:58	7440-39-3	
Cadmium	ND mg/L		0.0050	1	10/11/12 02:00	10/11/12 08:58	7440-43-9	
Chromium	ND mg/L		0.010	1	10/11/12 02:00	10/11/12 08:58	7440-47-3	
Lead	ND mg/L		0.010	1	10/11/12 02:00	10/11/12 08:58	7439-92-1	
Selenium	ND mg/L		0.010	1	10/11/12 02:00	10/11/12 08:58	7782-49-2	
Silver	ND mg/L		0.050	1	10/11/12 02:00	10/11/12 08:58	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Leachate Method/Date: EPA 1311; 10/09/12 00:00							
Mercury	ND ug/L		0.67	1	10/10/12 13:00	10/11/12 12:42	7439-97-6	CU
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
	Leachate Method/Date: EPA 1311; 10/09/12 00:00							
1,4-Dichlorobenzene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	106-46-7	
2,4-Dinitrotoluene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	121-14-2	
Hexachloro-1,3-butadiene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	87-68-3	
Hexachlorobenzene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	118-74-1	
Hexachloroethane	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	67-72-1	
2-Methylphenol(o-Cresol)	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND ug/L		200	1	10/10/12 10:47	10/10/12 15:22		
Nitrobenzene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	98-95-3	
Pentachlorophenol	ND ug/L		500	1	10/10/12 10:47	10/10/12 15:22	87-86-5	

Date: 10/18/2012 02:27 PM

REPORT OF LABORATORY ANALYSIS

Page 18 of 32

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10/30/12

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-IDW-100412	Lab ID: 5070388014	Collected: 10/04/12 15:00	Received: 10/04/12 16:29	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
	Leachate Method/Date: EPA 1311; 10/09/12 00:00							
Pyridine	ND	ug/L	100	1	10/10/12 10:47	10/10/12 15:22	110-86-1	
2,4,5-Trichlorophenol	ND	ug/L	500	1	10/10/12 10:47	10/10/12 15:22	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	100	1	10/10/12 10:47	10/10/12 15:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	79 %.		33-108	1	10/10/12 10:47	10/10/12 15:22	4165-60-0	
2-Fluorobiphenyl (S)	78 %.		34-106	1	10/10/12 10:47	10/10/12 15:22	321-60-8	
p-Terphenyl-d14 (S)	85 %.		31-122	1	10/10/12 10:47	10/10/12 15:22	1718-51-0	
Phenol-d5 (S)	16 %.		10-56	1	10/10/12 10:47	10/10/12 15:22	4165-62-2	
2-Fluorophenol (S)	30 %.		10-74	1	10/10/12 10:47	10/10/12 15:22	367-12-4	
2,4,6-Tribromophenol (S)	99 %.		32-124	1	10/10/12 10:47	10/10/12 15:22	118-79-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 10/10/12 13:33							
Benzene	ND	ug/L	50.0	1		10/11/12 20:56	71-43-2	
2-Butanone (MEK)	ND	ug/L	1000	1		10/11/12 20:56	78-93-3	
Carbon tetrachloride	ND	ug/L	50.0	1		10/11/12 20:56	56-23-5	
Chlorobenzene	ND	ug/L	50.0	1		10/11/12 20:56	108-90-7	
Chloroform	ND	ug/L	50.0	1		10/11/12 20:56	67-66-3	
1,2-Dichloroethane	ND	ug/L	50.0	1		10/11/12 20:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	50.0	1		10/11/12 20:56	75-35-4	
Tetrachloroethene	ND	ug/L	50.0	1		10/11/12 20:56	127-18-4	
Trichloroethene	ND	ug/L	50.0	1		10/11/12 20:56	79-01-6	
Vinyl chloride	ND	ug/L	20.0	1		10/11/12 20:56	75-01-4	
Surrogates								
Toluene-d8 (S)	116 %.		81-114	1		10/11/12 20:56	2037-26-5	S3
4-Bromofluorobenzene (S)	86 %.		72-125	1		10/11/12 20:56	460-00-4	
Dibromofluoromethane (S)	103 %.		83-123	1		10/11/12 20:56	1868-53-7	
1010 Flashpoint,Closed Cup	Analytical Method: EPA 1010							
Flashpoint	>180	deg F		1		10/08/12 13:55		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H B							
pH at 25 Degrees C	7.2	Std. Units		1		10/04/12 16:47		H6

QUALIFIERS

Project: GM Scatterfield
 Pace Project No.: 5070388

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-I Pace Analytical Services - Indianapolis

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

- CU The continuing calibration for this compound is outside of Pace Analytical acceptance limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
- H6 Analysis initiated outside of the 15 minute EPA recommended holding time.
- L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
- S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

October 18, 2012

Ms. Tonya Balla
Weston Solutions
750 E Bunker Ct.
Suite 500
Vernon Hills, IL 60061

RE: Project: GM Scatterfield
Pace Project No.: 5070388

Dear Ms. Balla:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt

kenneth.hunt@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: GM Scatterfield
Pace Project No.: 5070388

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACCLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas Certification #: E-10247
Kentucky Certification #: 0042

Louisiana/NELAC Certification #: 04076
Ohio VAP Certification #: CL0065
Pennsylvania Certification #: 68-04991
West Virginia Certification #: 330

REPORT OF LABORATORY ANALYSIS

Page 2 of 32

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SAMPLE SUMMARY

Project: GM Scatterfield
 Pace Project No.: 5070388

Lab ID	Sample ID	Matrix	Date Collected	Date Received
5070388001	GM-DL03-OW09-100312	Water	10/03/12 12:40	10/04/12 16:29
5070388002	GM-DL03-OW09-100312-D	Water	10/03/12 12:40	10/04/12 16:29
5070388003	GM-DL03-OW33-100312	Water	10/03/12 14:15	10/04/12 16:29
5070388004	GM-DL03-OW35-100312	Water	10/03/12 15:33	10/04/12 16:29
5070388005	GM-DL03-OW32S-100312	Water	10/03/12 17:20	10/04/12 16:29
5070388006	GM-DL03-OW32D-100312	Water	10/03/12 18:40	10/04/12 16:29
5070388007	GM-DL03-OW12S-100412	Water	10/04/12 09:50	10/04/12 16:29
5070388008	GM-DL03-OW12D-100412	Water	10/04/12 08:49	10/04/12 16:29
5070388009	GM-DL03-OW34-100412	Water	10/04/12 11:45	10/04/12 16:29
5070388010	GM-DL03-OW16D-100412	Water	10/04/12 13:40	10/04/12 16:29
5070388011	GM-DL03-OW16S-100412	Water	10/04/12 14:30	10/04/12 16:29
5070388012	GM-Rinsate-100412	Water	10/04/12 13:50	10/04/12 16:29
5070388013	GM-Trip Blank	Water	10/04/12 13:50	10/04/12 16:29
5070388014	GM-IDW-100412	Water	10/04/12 15:00	10/04/12 16:29

REPORT OF LABORATORY ANALYSIS

Page 3 of 32

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SAMPLE ANALYTE COUNT

Project: GM Scatterfield
Pace Project No.: 5070388

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
5070388001	GM-DL03-OW09-100312	EPA 8260	KMU	9	PASI-I
5070388002	GM-DL03-OW09-100312-D	EPA 8260	KMU	9	PASI-I
5070388003	GM-DL03-OW33-100312	EPA 8260	KMU	9	PASI-I
5070388004	GM-DL03-OW35-100312	EPA 8260	KMU	9	PASI-I
5070388005	GM-DL03-OW32S-100312	EPA 8260	KMU	9	PASI-I
5070388006	GM-DL03-OW32D-100312	EPA 8260	KMU	9	PASI-I
5070388007	GM-DL03-OW12S-100412	EPA 8260	KMU	9	PASI-I
5070388008	GM-DL03-OW12D-100412	EPA 8260	KMU	9	PASI-I
5070388009	GM-DL03-OW34-100412	EPA 8260	KMU	9	PASI-I
5070388010	GM-DL03-OW16D-100412	EPA 8260	KMU	9	PASI-I
5070388011	GM-DL03-OW16S-100412	EPA 8260	KMP	9	PASI-I
5070388012	GM-Rinsate-100412	EPA 8260	KMP	9	PASI-I
5070388013	GM-Trip Blank	EPA 8260	KMP	9	PASI-I
5070388014	GM-IDW-100412	EPA 8081	CWB	8	PASI-PA
		EPA 8082	DMT	8	PASI-I
		EPA 6010	FRW	7	PASI-I
		EPA 7470	BKK	1	PASI-I
		EPA 8270	KES	18	PASI-I
		EPA 8260	SLB	13	PASI-I
		EPA 1010	WDB	1	PASI-I
		SM 4500-H B	TPD	1	PASI-I

REPORT OF LABORATORY ANALYSIS

Page 4 of 32

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ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW09-100312 Lab ID: 5070388001 Collected: 10/03/12 12:40 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 12:39	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 12:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 12:39	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 12:39	71-55-6	
Trichloroethene	14.3	ug/L	5.0	1		10/14/12 12:39	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 12:39	75-01-4	
Surrogates								
Dibromofluoromethane (S)	96 %.		83-123	1		10/14/12 12:39	1868-53-7	
4-Bromofluorobenzene (S)	91 %.		72-125	1		10/14/12 12:39	460-00-4	
Toluene-d8 (S)	96 %.		81-114	1		10/14/12 12:39	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW09-100312-D Lab ID: 5070388002 Collected: 10/03/12 12:40 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 13:12	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 13:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 13:12	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 13:12	71-55-6	
Trichloroethene	14.3	ug/L	5.0	1		10/14/12 13:12	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 13:12	75-01-4	
Surrogates								
Dibromofluoromethane (S)	95 %.		83-123	1		10/14/12 13:12	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 13:12	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 13:12	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW33-100312 Lab ID: 5070388003 Collected: 10/03/12 14:15 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 13:44	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 13:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 13:44	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 13:44	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 13:44	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 13:44	75-01-4	
Surrogates								
Dibromofluoromethane (S)	92 %.		83-123	1		10/14/12 13:44	1868-53-7	
4-Bromofluorobenzene (S)	91 %.		72-125	1		10/14/12 13:44	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 13:44	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW35-100312 Lab ID: 5070388004 Collected: 10/03/12 15:33 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 14:17	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 14:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 14:17	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 14:17	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 14:17	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 14:17	75-01-4	
Surrogates								
Dibromofluoromethane (S)	96 %.		83-123	1		10/14/12 14:17	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 14:17	460-00-4	
Toluene-d8 (S)	96 %.		81-114	1		10/14/12 14:17	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW32S-100312 Lab ID: 5070388005 Collected: 10/03/12 17:20 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 14:50	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 14:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 14:50	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 14:50	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 14:50	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 14:50	75-01-4	
Surrogates								
Dibromofluoromethane (S)	96 %.		83-123	1		10/14/12 14:50	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 14:50	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 14:50	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW32D-100312 Lab ID: 5070388006 Collected: 10/03/12 18:40 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 15:23	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 15:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 15:23	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 15:23	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 15:23	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 15:23	75-01-4	
Surrogates								
Dibromofluoromethane (S)	99 %.		83-123	1		10/14/12 15:23	1868-53-7	
4-Bromofluorobenzene (S)	91 %.		72-125	1		10/14/12 15:23	460-00-4	
Toluene-d8 (S)	97 %.		81-114	1		10/14/12 15:23	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW12S-100412 Lab ID: 5070388007 Collected: 10/04/12 09:50 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 15:56	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 15:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 15:56	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 15:56	71-55-6	
Trichloroethene	10.1	ug/L	5.0	1		10/14/12 15:56	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 15:56	75-01-4	
Surrogates								
Dibromofluoromethane (S)	97 %.		83-123	1		10/14/12 15:56	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 15:56	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 15:56	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW12D-100412 Lab ID: 5070388008 Collected: 10/04/12 08:49 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 16:28	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 16:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 16:28	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 16:28	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 16:28	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 16:28	75-01-4	
Surrogates								
Dibromofluoromethane (S)	97 %.		83-123	1		10/14/12 16:28	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 16:28	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 16:28	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW34-100412 Lab ID: 5070388009 Collected: 10/04/12 11:45 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 18:07	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 18:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 18:07	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 18:07	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 18:07	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 18:07	75-01-4	
Surrogates								
Dibromofluoromethane (S)	99 %.		83-123	1		10/14/12 18:07	1868-53-7	
4-Bromofluorobenzene (S)	93 %.		72-125	1		10/14/12 18:07	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 18:07	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW16D-100412 Lab ID: 5070388010 Collected: 10/04/12 13:40 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 18:39	75-34-3	
cis-1,2-Dichloroethene	122	ug/L	5.0	1		10/14/12 18:39	156-59-2	
trans-1,2-Dichloroethene	7.5	ug/L	5.0	1		10/14/12 18:39	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 18:39	71-55-6	
Trichloroethene	82.7	ug/L	5.0	1		10/14/12 18:39	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 18:39	75-01-4	
Surrogates								
Dibromofluoromethane (S)	99 %.		83-123	1		10/14/12 18:39	1868-53-7	
4-Bromofluorobenzene (S)	91 %.		72-125	1		10/14/12 18:39	460-00-4	
Toluene-d8 (S)	94 %.		81-114	1		10/14/12 18:39	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-DL03-OW16S-100412 Lab ID: 5070388011 Collected: 10/04/12 14:30 Received: 10/04/12 16:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND ug/L		5.0	1		10/14/12 01:37	75-34-3	
cis-1,2-Dichloroethene	8.1 ug/L		5.0	1		10/14/12 01:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		5.0	1		10/14/12 01:37	156-60-5	
1,1,1-Trichloroethane	ND ug/L		5.0	1		10/14/12 01:37	71-55-6	
Trichloroethene	21.9 ug/L		5.0	1		10/14/12 01:37	79-01-6	
Vinyl chloride	ND ug/L		2.0	1		10/14/12 01:37	75-01-4	
Surrogates								
Dibromofluoromethane (S)	94 %.		83-123	1		10/14/12 01:37	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 01:37	460-00-4	
Toluene-d8 (S)	95 %.		81-114	1		10/14/12 01:37	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-Rinsate-100412	Lab ID: 5070388012	Collected: 10/04/12 13:50	Received: 10/04/12 16:29	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 02:09	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 02:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 02:09	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 02:09	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 02:09	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 02:09	75-01-4	
Surrogates								
Dibromofluoromethane (S)	94 %.		83-123	1		10/14/12 02:09	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 02:09	460-00-4	
Toluene-d8 (S)	94 %.		81-114	1		10/14/12 02:09	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-Trip Blank	Lab ID: 5070388013	Collected: 10/04/12 13:50	Received: 10/04/12 16:29	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	5.0	1		10/14/12 02:42	75-34-3	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 02:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		10/14/12 02:42	156-60-5	
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/14/12 02:42	71-55-6	
Trichloroethene	ND	ug/L	5.0	1		10/14/12 02:42	79-01-6	
Vinyl chloride	ND	ug/L	2.0	1		10/14/12 02:42	75-01-4	
Surrogates								
Dibromofluoromethane (S)	94 %.		83-123	1		10/14/12 02:42	1868-53-7	
4-Bromofluorobenzene (S)	92 %.		72-125	1		10/14/12 02:42	460-00-4	
Toluene-d8 (S)	96 %.		81-114	1		10/14/12 02:42	2037-26-5	

ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-IDW-100412	Lab ID: 5070388014	Collected: 10/04/12 15:00	Received: 10/04/12 16:29	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, TCLP	Analytical Method: EPA 8081							
gamma-BHC (Lindane)	ND ug/L		10.0	1	10/16/12 12:00	10/17/12 02:50	58-89-9	
Chlordane (Technical)	ND ug/L		10.0	1	10/16/12 12:00	10/17/12 02:50	57-74-9	
Endrin	0.020J ug/L		1.0	1	10/16/12 12:00	10/17/12 02:50	72-20-8	
Heptachlor epoxide	0.012J ug/L		0.50	1	10/16/12 12:00	10/17/12 02:50	1024-57-3	
Methoxychlor	0.056J ug/L		100	1	10/16/12 12:00	10/17/12 02:50	72-43-5	
Toxaphene	ND ug/L		50.0	1	10/16/12 12:00	10/17/12 02:50	8001-35-2	
Surrogates								
Decachlorobiphenyl (S)	75 %		30-150	1	10/16/12 12:00	10/17/12 02:50	2051-24-3	
Tetrachloro-m-xylene (S)	52 %		30-150	1	10/16/12 12:00	10/17/12 02:50	877-09-8	
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	12674-11-2	
PCB-1221 (Aroclor 1221)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	11104-28-2	
PCB-1232 (Aroclor 1232)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	11141-16-5	
PCB-1242 (Aroclor 1242)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	53469-21-9	
PCB-1248 (Aroclor 1248)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	12672-29-6	
PCB-1254 (Aroclor 1254)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	11097-69-1	
PCB-1260 (Aroclor 1260)	ND ug/L		0.54	1	10/08/12 15:21	10/09/12 20:03	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	84 %.		39-110	1	10/08/12 15:21	10/09/12 20:03	877-09-8	
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Leachate Method/Date: EPA 1311; 10/09/12 00:00								
Arsenic	ND mg/L		0.010	1	10/11/12 02:00	10/11/12 08:58	7440-38-2	
Barium	ND mg/L		0.50	1	10/11/12 02:00	10/11/12 08:58	7440-39-3	
Cadmium	ND mg/L		0.0050	1	10/11/12 02:00	10/11/12 08:58	7440-43-9	
Chromium	ND mg/L		0.010	1	10/11/12 02:00	10/11/12 08:58	7440-47-3	
Lead	ND mg/L		0.010	1	10/11/12 02:00	10/11/12 08:58	7439-92-1	
Selenium	ND mg/L		0.010	1	10/11/12 02:00	10/11/12 08:58	7782-49-2	
Silver	ND mg/L		0.050	1	10/11/12 02:00	10/11/12 08:58	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Leachate Method/Date: EPA 1311; 10/09/12 00:00								
Mercury	ND ug/L		0.67	1	10/10/12 13:00	10/11/12 12:42	7439-97-6	CU
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Leachate Method/Date: EPA 1311; 10/09/12 00:00								
1,4-Dichlorobenzene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	106-46-7	
2,4-Dinitrotoluene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	121-14-2	
Hexachloro-1,3-butadiene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	87-68-3	
Hexachlorobenzene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	118-74-1	
Hexachloroethane	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	67-72-1	
2-Methylphenol(o-Cresol)	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND ug/L		200	1	10/10/12 10:47	10/10/12 15:22		
Nitrobenzene	ND ug/L		100	1	10/10/12 10:47	10/10/12 15:22	98-95-3	
Pentachlorophenol	ND ug/L		500	1	10/10/12 10:47	10/10/12 15:22	87-86-5	

Date: 10/18/2012 02:27 PM

REPORT OF LABORATORY ANALYSIS

Page 18 of 32

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ANALYTICAL RESULTS

Project: GM Scatterfield
Pace Project No.: 5070388

Sample: GM-IDW-100412	Lab ID: 5070388014	Collected: 10/04/12 15:00	Received: 10/04/12 16:29	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
	Leachate Method/Date: EPA 1311; 10/09/12 00:00							
Pyridine	ND	ug/L	100	1	10/10/12 10:47	10/10/12 15:22	110-86-1	
2,4,5-Trichlorophenol	ND	ug/L	500	1	10/10/12 10:47	10/10/12 15:22	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	100	1	10/10/12 10:47	10/10/12 15:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	79 %.		33-108	1	10/10/12 10:47	10/10/12 15:22	4165-60-0	
2-Fluorobiphenyl (S)	78 %.		34-106	1	10/10/12 10:47	10/10/12 15:22	321-60-8	
p-Terphenyl-d14 (S)	85 %.		31-122	1	10/10/12 10:47	10/10/12 15:22	1718-51-0	
Phenol-d5 (S)	16 %.		10-56	1	10/10/12 10:47	10/10/12 15:22	4165-62-2	
2-Fluorophenol (S)	30 %.		10-74	1	10/10/12 10:47	10/10/12 15:22	367-12-4	
2,4,6-Tribromophenol (S)	99 %.		32-124	1	10/10/12 10:47	10/10/12 15:22	118-79-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 10/10/12 13:33							
Benzene	ND	ug/L	50.0	1		10/11/12 20:56	71-43-2	
2-Butanone (MEK)	ND	ug/L	1000	1		10/11/12 20:56	78-93-3	
Carbon tetrachloride	ND	ug/L	50.0	1		10/11/12 20:56	56-23-5	
Chlorobenzene	ND	ug/L	50.0	1		10/11/12 20:56	108-90-7	
Chloroform	ND	ug/L	50.0	1		10/11/12 20:56	67-66-3	
1,2-Dichloroethane	ND	ug/L	50.0	1		10/11/12 20:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	50.0	1		10/11/12 20:56	75-35-4	
Tetrachloroethene	ND	ug/L	50.0	1		10/11/12 20:56	127-18-4	
Trichloroethene	ND	ug/L	50.0	1		10/11/12 20:56	79-01-6	
Vinyl chloride	ND	ug/L	20.0	1		10/11/12 20:56	75-01-4	
Surrogates								
Toluene-d8 (S)	116 %.		81-114	1		10/11/12 20:56	2037-26-5	S3
4-Bromofluorobenzene (S)	86 %.		72-125	1		10/11/12 20:56	460-00-4	
Dibromofluoromethane (S)	103 %.		83-123	1		10/11/12 20:56	1868-53-7	
1010 Flashpoint,Closed Cup	Analytical Method: EPA 1010							
Flashpoint	>180	deg F		1		10/08/12 13:55		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H B							
pH at 25 Degrees C	7.2	Std. Units		1		10/04/12 16:47		H6



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QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

QC Batch: GCSV/13107

Analysis Method: EPA 8081

QC Batch Method: EPA 8081

Analysis Description: 8081 GCS TCLP Pesticides

Associated Lab Samples: 5070388014

METHOD BLANK: 499981

Matrix: Water

Associated Lab Samples: 5070388014

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Chlordane (Technical)	ug/L	ND	10.0	10/17/12 00:33	
Endrin	ug/L	0.010J	1.0	10/17/12 00:33	
gamma-BHC (Lindane)	ug/L	0.0060J	10.0	10/17/12 00:33	
Heptachlor epoxide	ug/L	ND	0.50	10/17/12 00:33	
Methoxychlor	ug/L	ND	100	10/17/12 00:33	
Toxaphene	ug/L	ND	50.0	10/17/12 00:33	
Decachlorobiphenyl (S)	%	83	30-150	10/17/12 00:33	
Tetrachloro-m-xylene (S)	%	67	30-150	10/17/12 00:33	

METHOD BLANK: 499983

Matrix: Water

Associated Lab Samples: 5070388014

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Chlordane (Technical)	ug/L	ND	10.0	10/17/12 02:22	
Endrin	ug/L	0.017J	1.0	10/17/12 02:22	
gamma-BHC (Lindane)	ug/L	0.0076J	10.0	10/17/12 02:22	
Heptachlor epoxide	ug/L	0.0068J	0.50	10/17/12 02:22	
Methoxychlor	ug/L	0.050J	100	10/17/12 02:22	
Toxaphene	ug/L	ND	50.0	10/17/12 02:22	
Decachlorobiphenyl (S)	%	77	30-150	10/17/12 02:22	
Tetrachloro-m-xylene (S)	%	54	30-150	10/17/12 02:22	

METHOD BLANK: 499984

Matrix: Water

Associated Lab Samples: 5070388014

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Chlordane (Technical)	ug/L	ND	10.0	10/17/12 03:17	
Endrin	ug/L	ND	1.0	10/17/12 03:17	
gamma-BHC (Lindane)	ug/L	ND	10.0	10/17/12 03:17	
Heptachlor epoxide	ug/L	0.011J	0.50	10/17/12 03:17	
Methoxychlor	ug/L	ND	100	10/17/12 03:17	
Toxaphene	ug/L	ND	50.0	10/17/12 03:17	
Decachlorobiphenyl (S)	%	87	30-150	10/17/12 03:17	
Tetrachloro-m-xylene (S)	%	67	30-150	10/17/12 03:17	

QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

LABORATORY CONTROL SAMPLE: 499982

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endrin	ug/L	1.6	1.4	85	57-112	
gamma-BHC (Lindane)	ug/L	.8	0.66J	82	66-118	
Heptachlor epoxide	ug/L	.8	0.64	79	66-114	
Methoxychlor	ug/L	8	6.4J	80	50-150	
Decachlorobiphenyl (S)	%			85	30-150	
Tetrachloro-m-xylene (S)	%			72	30-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 500335 500336

Parameter	Units	MS Spike		MSD Spike		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max	
		3079614001	Result	Conc.	Conc.						RPD	RPD
Endrin	ug/L	ND	1.6	1.6	1.4	1.4	1.4	87	88	57-112	2	27
gamma-BHC (Lindane)	ug/L	ND	.8	.8	0.61J	0.62J	74	76	76	66-118		20
Heptachlor epoxide	ug/L	ND	.8	.8	0.62	0.63	77	79	79	66-114	2	19
Methoxychlor	ug/L	ND	8	8	6.8J	6.8J	84	85	85	50-150		25
Decachlorobiphenyl (S)	%							86	86	30-150		
Tetrachloro-m-xylene (S)	%							64	65	30-150		

QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

QC Batch:	MERP/4185	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury TCLP
Associated Lab Samples:	5070388014		

METHOD BLANK: 813734 Matrix: Water

Associated Lab Samples: 5070388014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.67	10/11/12 12:36	

LABORATORY CONTROL SAMPLE & LCSD: 813735 813736

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Mercury	ug/L	5	4.8	5.1	96	101	80-120	5	20	

MATRIX SPIKE SAMPLE: 813737

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.0	100	75-125	

QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

QC Batch:	MPRP/9999	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET TCLP
Associated Lab Samples:	5070388014		

METHOD BLANK: 814048 Matrix: Water

Associated Lab Samples: 5070388014

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Arsenic	mg/L	ND	0.010	10/11/12 08:52	
Barium	mg/L	ND	0.50	10/11/12 08:52	
Cadmium	mg/L	ND	0.0050	10/11/12 08:52	
Chromium	mg/L	ND	0.010	10/11/12 08:52	
Lead	mg/L	ND	0.010	10/11/12 08:52	
Selenium	mg/L	ND	0.010	10/11/12 08:52	
Silver	mg/L	ND	0.050	10/11/12 08:52	

LABORATORY CONTROL SAMPLE & LCSD: 814049 814050

Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	RPD	Max RPD	Qualifiers
		Conc.	Result	Result	% Rec	% Rec	Limits			
Arsenic	mg/L	1	0.99	0.95	99	95	80-120	5	20	
Barium	mg/L	1	0.96	0.92	96	92	80-120	4	20	
Cadmium	mg/L	1	0.99	0.94	99	94	80-120	5	20	
Chromium	mg/L	1	0.96	0.91	96	91	80-120	6	20	
Lead	mg/L	1	0.98	0.93	98	93	80-120	5	20	
Selenium	mg/L	1	1.0	0.96	101	96	80-120	5	20	
Silver	mg/L	.5	0.48	0.46	97	92	80-120	5	20	

MATRIX SPIKE SAMPLE: 814051

Parameter	Units	5070388014		Spike	MS		% Rec	Limits	Qualifiers
		Result	Conc.	Result	% Rec	% Rec			
Arsenic	mg/L	ND	1	0.99	99	99	50-150		
Barium	mg/L	ND	1	1.0	93	93	50-150		
Cadmium	mg/L	ND	1	0.98	98	98	50-150		
Chromium	mg/L	ND	1	0.88	88	88	50-150		
Lead	mg/L	ND	1	0.94	94	94	50-150		
Selenium	mg/L	ND	1	0.99	99	99	50-150		
Silver	mg/L	ND	.5	0.46	93	93	50-150		

QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

QC Batch:	MSV/46774	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV TCLP
Associated Lab Samples:	5070388014		

METHOD BLANK: 814542 Matrix: Water

Associated Lab Samples: 5070388014

Parameter	Units	Blank Result	Reporting		Qualifiers
			Limit	Analyzed	
1,1-Dichloroethene	ug/L	ND	50.0	10/11/12 14:20	
1,2-Dichloroethane	ug/L	ND	50.0	10/11/12 14:20	
2-Butanone (MEK)	ug/L	ND	1000	10/11/12 14:20	
Benzene	ug/L	ND	50.0	10/11/12 14:20	
Carbon tetrachloride	ug/L	ND	50.0	10/11/12 14:20	
Chlorobenzene	ug/L	ND	50.0	10/11/12 14:20	
Chloroform	ug/L	ND	50.0	10/11/12 14:20	
Tetrachloroethene	ug/L	ND	50.0	10/11/12 14:20	
Trichloroethene	ug/L	ND	50.0	10/11/12 14:20	
Vinyl chloride	ug/L	ND	20.0	10/11/12 14:20	
4-Bromofluorobenzene (S)	%.	86	72-125	10/11/12 14:20	
Dibromofluoromethane (S)	%.	102	83-123	10/11/12 14:20	
Toluene-d8 (S)	%.	109	81-114	10/11/12 14:20	

LABORATORY CONTROL SAMPLE: 814543

Parameter	Units	Spike Conc.	LCS	LCS % Rec	% Rec Limits	Qualifiers
			Result	% Rec	Limits	
1,1-Dichloroethene	ug/L	500	538	108	75-145	
1,2-Dichloroethane	ug/L	500	615	123	71-127	
2-Butanone (MEK)	ug/L	2500	3290	131	42-177	
Benzene	ug/L	500	534	107	76-123	
Carbon tetrachloride	ug/L	500	571	114	65-125	
Chlorobenzene	ug/L	500	524	105	78-120	
Chloroform	ug/L	500	554	111	73-122	
Tetrachloroethene	ug/L	500	534	107	57-125	
Trichloroethene	ug/L	500	549	110	77-122	
Vinyl chloride	ug/L	500	455	91	61-146	
4-Bromofluorobenzene (S)	%.			93	72-125	
Dibromofluoromethane (S)	%.			102	83-123	
Toluene-d8 (S)	%.			108	81-114	



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QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

QC Batch: MSV/46862 Analysis Method: EPA 8260

QC Batch Method: EPA 8260 Analysis Description: 8260 MSV

Associated Lab Samples: 5070388011, 5070388012, 5070388013

METHOD BLANK: 815915 Matrix: Water

Associated Lab Samples: 5070388011, 5070388012, 5070388013

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
1,1,1-Trichloroethane	ug/L	ND	5.0	10/13/12 19:04	
1,1-Dichloroethane	ug/L	ND	5.0	10/13/12 19:04	
cis-1,2-Dichloroethene	ug/L	ND	5.0	10/13/12 19:04	
trans-1,2-Dichloroethene	ug/L	ND	5.0	10/13/12 19:04	
Trichloroethene	ug/L	ND	5.0	10/13/12 19:04	
Vinyl chloride	ug/L	ND	2.0	10/13/12 19:04	
4-Bromofluorobenzene (S)	%.	93	72-125	10/13/12 19:04	
Dibromofluoromethane (S)	%.	97	83-123	10/13/12 19:04	
Toluene-d8 (S)	%.	96	81-114	10/13/12 19:04	

LABORATORY CONTROL SAMPLE: 815916

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	42.2	84	69-126	
1,1-Dichloroethane	ug/L	50	40.7	81	70-127	
cis-1,2-Dichloroethene	ug/L	50	38.5	77	79-129	L0
trans-1,2-Dichloroethene	ug/L	50	37.8	76	71-145	
Trichloroethene	ug/L	50	40.7	81	77-122	
Vinyl chloride	ug/L	50	42.7	85	61-146	
4-Bromofluorobenzene (S)	%.			99	72-125	
Dibromofluoromethane (S)	%.			93	83-123	
Toluene-d8 (S)	%.			97	81-114	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 815917

815918

Parameter	Units	Result	MS		MSD		MS		MSD		% Rec		Max	
			Spike	Conc.	Spike	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	40.4	40.4	81	81	37-136	.1	20			
1,1-Dichloroethane	ug/L	ND	50	50	39.0	38.6	78	77	47-138	.9	20			
cis-1,2-Dichloroethene	ug/L	ND	50	50	36.7	36.3	73	73	48-145	1	20			
trans-1,2-Dichloroethene	ug/L	ND	50	50	36.7	36.2	73	72	48-144	1	20			
Trichloroethene	ug/L	ND	50	50	39.0	38.9	78	78	44-130	.1	20			
Vinyl chloride	ug/L	ND	50	50	38.5	39.2	77	78	45-159	2	20			
4-Bromofluorobenzene (S)	%.							100	99	72-125		20		
Dibromofluoromethane (S)	%.							91	92	83-123		20		
Toluene-d8 (S)	%.							97	96	81-114		20		

Date: 10/18/2012 02:27 PM

REPORT OF LABORATORY ANALYSIS

Page 25 of 32

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QUALITY CONTROL DATA

Project: GM Scatterfield
Pace Project No.: 5070388

QC Batch:	MSV/46870	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV
Associated Lab Samples:	5070388001, 5070388002, 5070388003, 5070388004, 5070388005, 5070388006, 5070388007, 5070388008, 5070388009, 5070388010		

METHOD BLANK: 815939 Matrix: Water

Associated Lab Samples: 5070388001, 5070388002, 5070388003, 5070388004, 5070388005, 5070388006, 5070388007, 5070388008, 5070388009, 5070388010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5.0	10/14/12 12:06	
1,1-Dichloroethane	ug/L	ND	5.0	10/14/12 12:06	
cis-1,2-Dichloroethene	ug/L	ND	5.0	10/14/12 12:06	
trans-1,2-Dichloroethene	ug/L	ND	5.0	10/14/12 12:06	
Trichloroethene	ug/L	ND	5.0	10/14/12 12:06	
Vinyl chloride	ug/L	ND	2.0	10/14/12 12:06	
4-Bromofluorobenzene (S)	%.	91	72-125	10/14/12 12:06	
Dibromofluoromethane (S)	%.	100	83-123	10/14/12 12:06	
Toluene-d8 (S)	%.	96	81-114	10/14/12 12:06	

LABORATORY CONTROL SAMPLE: 815940

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	50.9	102	69-126	
1,1-Dichloroethane	ug/L	50	55.4	111	70-127	
cis-1,2-Dichloroethene	ug/L	50	50.4	101	79-129	
trans-1,2-Dichloroethene	ug/L	50	52.0	104	71-145	
Trichloroethene	ug/L	50	50.7	101	77-122	
Vinyl chloride	ug/L	50	43.1	86	61-146	
4-Bromofluorobenzene (S)	%.			100	72-125	
Dibromofluoromethane (S)	%.			90	83-123	
Toluene-d8 (S)	%.			97	81-114	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 815941 815942

Parameter	Units	5070388008 Result	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec	Max	
			Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	49.7	50.2	99	100	37-136	.9	20
1,1-Dichloroethane	ug/L	ND	50	50	56.5	55.6	113	111	47-138	2	20
cis-1,2-Dichloroethene	ug/L	ND	50	50	51.5	50.1	103	100	48-145	3	20
trans-1,2-Dichloroethene	ug/L	ND	50	50	53.6	53.5	107	107	48-144	.2	20
Trichloroethene	ug/L	ND	50	50	50.4	49.8	101	100	44-130	1	20
Vinyl chloride	ug/L	ND	50	50	45.2	45.4	90	91	45-159	.6	20
4-Bromofluorobenzene (S)	%.						100	102	72-125		20
Dibromofluoromethane (S)	%.						92	91	83-123		20
Toluene-d8 (S)	%.						97	98	81-114		20

QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

QC Batch: OEXT/30976

Analysis Method: EPA 8082

QC Batch Method: EPA 3510

Analysis Description: 8082 GCS PCB Mod

Associated Lab Samples: 5070388014

METHOD BLANK: 812727

Matrix: Water

Associated Lab Samples: 5070388014

Parameter	Units	Blank Result	Reporting		Qualifiers
			Limit	Analyzed	
PCB-1016 (Aroclor 1016)	ug/L	ND	0.50	10/09/12 19:31	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.50	10/09/12 19:31	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.50	10/09/12 19:31	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.50	10/09/12 19:31	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.50	10/09/12 19:31	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.50	10/09/12 19:31	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.50	10/09/12 19:31	
Tetrachloro-m-xylene (S)	%.	87	39-110	10/09/12 19:31	

LABORATORY CONTROL SAMPLE: 812728

Parameter	Units	Spike Conc.	LCS	LCS	% Rec Limits	Qualifiers
			Result	% Rec		
PCB-1016 (Aroclor 1016)	ug/L	5	4.8	96	49-110	
PCB-1260 (Aroclor 1260)	ug/L	5	4.8	97	57-108	
Tetrachloro-m-xylene (S)	%.			90	39-110	



Pace Analytical Services, Inc.

1233 Dublin Road
Columbus, OH 43215
(614)486-5421

Pace Analytical Services, Inc.

7726 Moller Road
dianapolis, IN 46268
(317)875-5894

QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

QC Batch: OEXT/30999

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 TCLP MSSV

Associated Lab Samples: 5070388014

METHOD BLANK: 813741

Matrix: Water

Associated Lab Samples: 5070388014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	100	10/10/12 14:41	
2,4,5-Trichlorophenol	ug/L	ND	500	10/10/12 14:41	
2,4,6-Trichlorophenol	ug/L	ND	100	10/10/12 14:41	
2,4-Dinitrotoluene	ug/L	ND	100	10/10/12 14:41	
2-Methylphenol(o-Cresol)	ug/L	ND	100	10/10/12 14:41	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	200	10/10/12 14:41	
Hexachloro-1,3-butadiene	ug/L	ND	100	10/10/12 14:41	
Hexachlorobenzene	ug/L	ND	100	10/10/12 14:41	
Hexachloroethane	ug/L	ND	100	10/10/12 14:41	
Nitrobenzene	ug/L	ND	100	10/10/12 14:41	
Pentachlorophenol	ug/L	ND	500	10/10/12 14:41	
Pyridine	ug/L	ND	100	10/10/12 14:41	
2,4,6-Tribromophenol (S)	%.	102	32-124	10/10/12 14:41	
2-Fluorobiphenyl (S)	%.	80	34-106	10/10/12 14:41	
2-Fluorophenol (S)	%.	34	10-74	10/10/12 14:41	
Nitrobenzene-d5 (S)	%.	82	33-108	10/10/12 14:41	
p-Terphenyl-d14 (S)	%.	99	31-122	10/10/12 14:41	
Phenol-d5 (S)	%.	20	10-56	10/10/12 14:41	

LABORATORY CONTROL SAMPLE: 813742

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	1000	637	64	30-92	
2,4,5-Trichlorophenol	ug/L	1000	777	78	39-125	
2,4,6-Trichlorophenol	ug/L	1000	747	75	38-125	
2,4-Dinitrotoluene	ug/L	1000	716	72	38-119	
2-Methylphenol(o-Cresol)	ug/L	1000	512	51	31-106	
3&4-Methylphenol(m&p Cresol)	ug/L	2000	855	43	24-97	
Hexachloro-1,3-butadiene	ug/L	1000	694	69	16-115	
Hexachlorobenzene	ug/L	1000	856	86	33-124	
Hexachloroethane	ug/L	1000	626	63	16-100	
Nitrobenzene	ug/L	1000	715	72	35-114	
Pentachlorophenol	ug/L	1000	732	73	14-131	
Pyridine	ug/L	1000	336	34	10-61	
2,4,6-Tribromophenol (S)	%.			88	32-124	
2-Fluorobiphenyl (S)	%.			70	34-106	
2-Fluorophenol (S)	%.			28	10-74	
Nitrobenzene-d5 (S)	%.			73	33-108	
p-Terphenyl-d14 (S)	%.			87	31-122	
Phenol-d5 (S)	%.			16	10-56	

Date: 10/18/2012 02:27 PM

REPORT OF LABORATORY ANALYSIS

Page 28 of 32

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QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

MATRIX SPIKE SAMPLE:	813743						
Parameter	Units	5070388014	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	1000	726	73	35-102	
2,4,5-Trichlorophenol	ug/L	ND	1000	959	96	60-121	
2,4,6-Trichlorophenol	ug/L	ND	1000	865	87	57-125	
2,4-Dinitrotoluene	ug/L	ND	1000	860	86	37-114	
2-Methylphenol(o-Cresol)	ug/L	ND	1000	553	55	41-111	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	2000	1010	51	32-111	
Hexachloro-1,3-butadiene	ug/L	ND	1000	848	85	20-114	
Hexachlorobenzene	ug/L	ND	1000	924	92	32-125	
Hexachloroethane	ug/L	ND	1000	701	70	22-101	
Nitrobenzene	ug/L	ND	1000	812	81	50-113	
Pentachlorophenol	ug/L	ND	1000	768	77	25-117	
Pyridine	ug/L	ND	1000	330	33	10-112	
2,4,6-Tribromophenol (S)	%.				98	32-124	
2-Fluorobiphenyl (S)	%.				79	34-106	
2-Fluorophenol (S)	%.				31	10-74	
Nitrobenzene-d5 (S)	%.				90	33-108	
p-Terphenyl-d14 (S)	%.				87	31-122	
Phenol-d5 (S)	%.				20	10-56	

QUALITY CONTROL DATA

Project: GM Scatterfield

Pace Project No.: 5070388

QC Batch: WET/10237 Analysis Method: SM 4500-H B

QC Batch Method: SM 4500-H B Analysis Description: 4500H+B pH

Associated Lab Samples: 5070388014

SAMPLE DUPLICATE: 811874

Parameter	Units	5070388014 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	.4	H6	

QUALIFIERS

Project: GM Scatterfield
 Pace Project No.: 5070388

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-I Pace Analytical Services - Indianapolis

PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

- CU The continuing calibration for this compound is outside of Pace Analytical acceptance limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
- H6 Analysis initiated outside of the 15 minute EPA recommended holding time.
- L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
- S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GM Scatterfield
Pace Project No.: 5070388

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
5070388014	GM-IDW-100412	EPA 8081	GCSV/13107	EPA 8081	GCSV/4939
5070388014	GM-IDW-100412	EPA 3510	OEXT/30976	EPA 8082	GCSV/10013
5070388014	GM-IDW-100412	EPA 3010	MPRP/9999	EPA 6010	ICP/10375
5070388014	GM-IDW-100412	EPA 7470	MERP/4185	EPA 7470	MERC/4204
5070388014	GM-IDW-100412	EPA 3510	OEXT/30999	EPA 8270	MSSV/11147
5070388014	GM-IDW-100412	EPA 8260	MSV/46774		
5070388001	GM-DL03-OW09-100312	EPA 8260	MSV/46870		
5070388002	GM-DL03-OW09-100312-D	EPA 8260	MSV/46870		
5070388003	GM-DL03-OW33-100312	EPA 8260	MSV/46870		
5070388004	GM-DL03-OW35-100312	EPA 8260	MSV/46870		
5070388005	GM-DL03-OW32S-100312	EPA 8260	MSV/46870		
5070388006	GM-DL03-OW32D-100312	EPA 8260	MSV/46870		
5070388007	GM-DL03-OW12S-100412	EPA 8260	MSV/46870		
5070388008	GM-DL03-OW12D-100412	EPA 8260	MSV/46870		
5070388009	GM-DL03-OW34-100412	EPA 8260	MSV/46870		
5070388010	GM-DL03-OW16D-100412	EPA 8260	MSV/46870		
5070388011	GM-DL03-OW16S-100412	EPA 8260	MSV/46862		
5070388012	GM-Rinsate-100412	EPA 8260	MSV/46862		
5070388013	GM-Trip Blank	EPA 8260	MSV/46862		
5070388014	GM-IDW-100412	EPA 1010	WET/10242		
5070388014	GM-IDW-100412	SM 4500-H B	WET/10237		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

165

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: 1 of 2
Company: Weston Solutions, Inc.	Report To: Tonya Balla	Attention:			1605417	
Address: 750 E. Bunker Ct	Copy To:	Company Name: Weston Solutions, Inc	REGULATORY AGENCY			
Vernon Hills IL		Address:	<input type="checkbox"/> NPDES	<input checked="" type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER	
Email To: t.balla@westonsolutions.com	Purchase Order No.:	Pace Quote Reference:	<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER	
Phone: 847-919-4094	Fax:	Pace Project Manager: Matt Marrett Ken Hunt	Site Location:			
Requested Due Date/TAT: Standard	Project Number: GM Scattered	Pace Profile #:	STATE: IN			

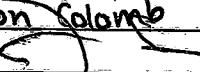
ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 /,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE		SAMPLE TYPE (G=GRAB, C=COMP) (see valid codes to left)	COLLECTED				SAMPLE TEMP AT COLLECTION	Preservatives						Analysis Test ↑ Y/N	VOCs	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
		Drinking Water	DW		Composite Start	Composite End/Grab	# OF CONTAINERS	Unpreserved		H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol					Other
		Water	WT		Date	Time	Date	Time												
1	GM-DL03-0W09-100312	WT G	10/3	1240				X										-001		
2	GM-DL03-0W09-100312-D	WT G	10/3	1240				X										-002		
3	GM-DL03-0W33-100312	WT G	10/3	1415				X										-003		
4	GM-DL03-0W35-100312	WT G	10/3	1533				X										-004		
5	GM-DL03-0W32S-100312	WT G	10/3	1720				X										-005		
6	GM-DL03-0W32D-100312	WT G	10/3	1840				X										-006		
7	GM-DL03-0W12S-100412	WT G	10/4	0950				X										-007		
8	GM-DL03-0W12D-100412	WT G	10/4	0849				X										-008		
9	GM-DL03-0W34-100412	WT G	10/4	1145				X										-009		
10	GM-DL03-0W11D-100412	WT G	10/4	1340				X										-010		
11	GM-DL03-0W14S-100412	WT G	10/4	430				X										-011		
12	GM-Ringside-100412	WT G	10/4	1350				X										-012		
ADDITIONAL COMMENTS:		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS										
# Perform MS/MS on 0W-12D		<i>John Colombe</i>		10/4	1630	<i>Marshall, Sean</i>		10/4	1209/16/08	V	N	Y								
# Only analyze for 1,1-Dichloroethane, cis-1,2-dichloroethane, trans-1,2-dichloroethane, VC, TCE, 1,1,1-TGA																				

SAMPLER NAME AND SIGNATURE		Temp in °C
PRINT Name of SAMPLER: Joh Colombe		Received on Ice (Y/N)
SIGNATURE of SAMPLER: J.C.		Custody Sealed/Cooler (Y/N)
DATE Signed (MM/DD/YY): 10/04/2012		Samples intact

clayton ORIGINAL

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: 2 of 2													
Company: Weston Solutions, Inc Address: 750 E. Bunker Ct Suite 500 Vernon Hills IL Email To: t.balla@westonsolutions.com Phone: 847-918-4094 Fax: Requested Due Date/TAT: STANDARD		Report To: Tanya Balla Copy To: Purchase Order No.: Project Name: GM Scatterfield Project Number: 		Attention: Company Name: Address: Pace Quote Reference: Pace Project Manager: Matt Moretti Ken Hunt Pace Profile #: 		REGULATORY AGENCY <input type="checkbox"/> NPDES <input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER													
Section D Required Client Information SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE		Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT		MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP)		COLLECTED <table border="1"> <thead> <tr> <th colspan="2">COMPOSITE START</th> <th colspan="2">COMPOSITE END/GRAB</th> </tr> <tr> <th>DATE</th> <th>TIME</th> <th>DATE</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		COMPOSITE START		COMPOSITE END/GRAB		DATE	TIME	DATE	TIME				
COMPOSITE START		COMPOSITE END/GRAB																	
DATE	TIME	DATE	TIME																
ITEM #						# OF CONTAINERS Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Y/N Analysis Test VOCs TCCLP VOCs TCCLP SVOCs TCCLP metals TCCLP pesticides PCBs pH Flashpoint	Residual Chlorine (Y/N) <i>GD70388</i>											
									1	GM - Trip Blanks	X								
2	*last item																		
3	GM - IDW - 100412	WT C	10-4-12 1500	10-4-12 1500	7 X		XXXXXX												
4	*last item																		
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS									
		 <i>Joe Colombo</i>		10/14	10:29	<i>Marisa Nelson</i> <i>Marisa Nelson</i>		10/14	10:29	11/10	Y								
										69	Y								
<i>client wj</i>		ORIGINAL		SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Don Colomb SIGNATURE of SAMPLER: 				Temp In °C	Received on Ice (Y/N)	Custody Sealed/Coder (Y/N)	Samples intact (Y/N)								

***Important Note:** By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Container Count

CLIENT: western

COC PAGE 1 of 2
COC ID# 1605417



Project # SB70388

Sample Line

Item	DG9H	AG1U	WGFU	AG0U	R 4 / 6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	Comments
1	3													
2														
3														
4														
5														
6														
7														
8	9													
9	3													
10														
11														
12														

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H ₂ SO ₄ plastic	DG9S	40mL H ₂ SO ₄ amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H ₂ SO ₄ amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber gl	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic		Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H ₂ SO ₄ amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H ₂ SO ₄ plastic	AG2U	500mL unpreserved amber gla	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber gla	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio, clear vial
BP3S	250mL H ₂ SO ₄ plastic	BG1S	1-liter H ₂ SO ₄ clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H ₂ SO ₄ glass amber	BG1T	1 liter Na Thiosulfate clear gla	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H ₂ SO ₄ amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag

Sample Container Count

CLIENT: Westons

COC PAGE 2 of 2
COC ID# 1605418



Project # SD70388

Sample Line

Item	DG9H	AG1U	WGFU	AG0U	R 4 / 6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	Comments
1	3													TB
2														
3		7												
4														
5														
6														
7														
8														
9														
10														
11														
12														

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber gl	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber gla	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber gla	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gla	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag