

**Revitalizing Auto Communities
Environmental Response Trust**

Semi-Annual Status Report

First Half 2012

Former GM Delco Plant 5
Kokomo, Indiana

July 12, 2012



A handwritten signature in black ink that reads "Matthew D. Griles".

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Sarah Fisher
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Former GM Delco Plant 5
Kokomo, Indiana

Prepared for:
Revitalizing Auto Communities
Environmental Response Trust

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1. Introduction

ARCADIS has prepared this Semi-Annual Status Report on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust. This monitoring report summarizes the first half 2012 groundwater gauging, groundwater sampling and soil gas sampling events at the Former GM Delco Plant 5 in Kokomo, Indiana (Site). Drawing 1 provides the legend for information presented on the drawings.

2. Groundwater Gauging

On March 29, 2012, ARCADIS measured the depth to groundwater in 38 monitoring wells at the Site, located in the S1 and S2 sand and gravel units. The gauging data, presented in Table 1, were used to calculate groundwater elevations at each of the monitoring wells. The groundwater elevation contours in the S1 and S2 sand and gravel units are provided as Drawings 2 and 3, respectively. Groundwater in the S1 and S2 units are confined by overlying clay till units. The potentiometric surface map for the S1 unit (Drawing 2) indicates that groundwater within the S1 unit flows toward the southeast and is consistent with previously observed groundwater contours. During the March 2012 groundwater gauging event, the S1 potentiometric surface at the Site ranged from approximately 815.5 feet (ft) above mean seal level (AMSL) to 812 ft AMSL. The potentiometric surface map generated for the S2 unit (Drawing 3) illustrates that the S2 unit has a shallow gradient and groundwater flow generally appears to be towards the southeast. The S2 potentiometric surface at the Site ranges from approximately 814.2 ft AMSL to approximately 813.9 ft AMSL. The groundwater potentiometric surfaces for the S1 and S2 units will continue to be evaluated through future gauging events to monitor the flow direction in the localized hydrogeology. The groundwater potentiometric elevations observed during this event were consistent with elevations used in modeling previously performed by ARCADIS and were consistent with simulated results predicted by the modeling.

3. Groundwater Sampling Event

On March 29, 2012, ARCADIS deployed passive diffusion bags (PDBs) in nine monitoring wells on- and off-Site. Prior to deploying the PDBs, the depth to groundwater and depth to bottom of the wells were measured. The PDBs equilibrated inside each of the monitoring wells for a three-week period. On April 19, 2012, the PDBs were removed from the monitoring wells and groundwater samples were collected through a dedicated straw directly into laboratory-supplied containers. Four of the nine wells with PDBs were also sampled using traditional low flow techniques

after collection of the PDBs. All containers were immediately sealed, labeled and placed in an ice-packed cooler and transported to Pace Analytical Services, located in Indianapolis, Indiana. The groundwater samples were analyzed for volatile organic compounds (VOCs) in accordance with USEPA SW-846 Method 8260. A statistical analysis comparing analytical results from the PDBs and groundwater samples obtained using low flow sampling methods is presented in Appendix A.

VOC analytical results from monitoring wells sampled during the April 2012 event are summarized in Table 2. Only VOCs that were detected during one or more monitoring event are presented in the table. The analytical results are also summarized on Drawing 4. Data from the last four sampling events are presented for select VOCs (benzene, trichloroethene (TCE), cis-1,2-dichloroethene (DCE), trans-1,2-dichloroethene (trans-1,2-DCE), 1,1-dichloroethene (1,1-DCE), 1,1-dichloroethane (1,1-DCA) and vinyl chloride). The groundwater data are compared to Drinking Water Screening Criteria (Maximum Contaminant Levels (MCLs) or IDEM RISC Residential Default Closure Levels, where MCLs are not established.

Groundwater VOC analytical results were also compared to Groundwater Vapor Intrusion Screening Criteria as shown in Table 3. These criteria have been identified for four Site conditions and wells in specific areas off Site:

- Residential values for groundwater off Site inside the plume
- Residential values for groundwater off Site outside the plume
- Commercial/industrial values for groundwater off Site inside the plume
- Commercial/industrial values for groundwater off Site outside the plume

The analytical results are also presented on Drawings 5 and 6. Drawing 5 presents data from monitoring wells that are off Site and inside the plume while Drawing 6 presents data from monitoring wells that are off Site and outside the plume. The laboratory analytical results along with the validation summary are provided in Appendix B.

4. Soil Gas Sampling Event

On March 29, 2012, ARCADIS inspected the soil gas ports that were installed in 2007 and attempted to purge air through the ports to determine their integrity. ARCADIS noted that soil-gas ports SGP-0701 and SGP-0706 had been recently covered by asphalt. After multiple attempts no air could be purged from SGP-0707. A minimum of three well volumes of air was able to be purged from the remaining eight soil gas ports. Several of the soil gas ports produced water during the purging. The water was

removed until no additional water was produced. An approximate total of 800 mL of water was removed from the soil gas ports.

Once clear of water, on April 20, 2012, ARCADIS collected soil gas samples from the eight soil gas ports as described below.

Immediately prior to sampling, a leak test was performed on each of the soil-gas ports to test the integrity of the well. This was accomplished by enriching the atmosphere in the immediate vicinity of the area where the tubing intersects the surface with a tracer gas and measuring a vapor sample from the probe for the presence of high concentrations (> 10 percent) of the tracer gas (in this case helium) (NYDOH 2006). A shroud consisting of a 1-gallon plastic container equipped with a gas valve was placed over the well and sealed to the floor with modeling clay. The tubing was passed through the shroud to the outside through hole that was then sealed with modeling clay. A cylinder of laboratory grade compressed helium gas was connected to the gas valve and helium was introduced to the shroud at a slow rate in order to not pressurize the shroud. To purge, the brass plug was removed from the soil gas port sample assembly and the tubing connected to a disposable graduated 60 mL syringe with a three-way stop-cock with the port valve closed. Then the valve on the tubing was opened and the tubing was purged into a Tedlar[®] bag. Approximately one to three times the dead volume of air was purged at a rate of 10 mL/min. A Dielectric MGD-2002 Helium Detector was then used to screen the sample aliquot in the Tedlar bag. Helium was either not detected or detected well below 10 percent from the Tedlar bags at each well, indicating good integrity from the soil gas ports sampled. The amount and rate of dead volumes purged was measured and recorded in the field and remained consistent between sample locations. At the completion of purging the valve on the sampling port was closed and the syringe removed.

A “leak down” test was performed to test the integrity of the valves and fittings for each soil-gas well. After the canister was connected to the tubing at each sampling point, the canister was opened and allowed to sit for one minute prior to opening the valve on the tubing. The vacuum gauge on the flow controller was monitored during this time for a reduction in vacuum, indicating a leak. None of the valves or fittings indicated leakage.

Immediately following purging and leak testing each soil gas port, a sample was collected using 1-liter polished stainless steel SUMMA[®] canisters with calibrated flow controllers that were cleaned and certified by Air Toxics Ltd, in Folsom, California. The flow controllers were calibrated for a sampling duration of 10 minutes (equivalent to a

flow rate of approximately 80 mL/min). During the sample collection process, the sampling canister and flow controller were connected to the sampling port. The sampling canister was opened and then the valve on the tubing was opened. At the completion of each sample collection, the canister was closed first and then the valve to the soil-gas well was closed. The final vacuums were then recorded and the canisters sealed with a brass Swagelok[®] cap, and shipped to the laboratory for analysis of specific VOCs (1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, tetrachloroethene (PCE), TCE, and vinyl chloride) by modified USEPA Method TO-15 GC/MS.

VOC analytical results are summarized in Table 4 and on Drawing 6. The laboratory analytical report for this sampling is provided in Appendix C.

5. Summary and Conclusions

Based on the findings from the first half 2012 groundwater monitoring event, groundwater elevations in the S1 and S2 aquifer units are consistent with historical observations and what is expected based on groundwater modeling. The groundwater monitoring data collected indicate that Site-related concentrations of VOCs in groundwater are stable, as shown by the data presented on Drawing 4. During the April 2012 sampling event, concentrations of Site-specific constituents of concern were above the Drinking Water Screening Criteria in one or more groundwater samples. Monitoring well MW-0612-S1 was the only location that exceeded the Groundwater Vapor Intrusion Screening Criteria (detected TCE concentration of 4,750 ug/L compared to the screening criterion of 1,570 ug/L).

Soil gas analytical data were initially screened using Table B-3 from the *Supplemental Memo – Corrective Measures Proposal* (ARCADIS 2012). However, since these values were calculated, IDEM has finalized their Remediation Closure Guide (RCG) with updated vapor intrusion screening methods. Accordingly, ARCADIS has updated the soil gas screening criteria based on IDEM's final guidance. Table 3 presents the initial and revised screening criteria for comparison purposes and to describe the basis for the revised criteria which are considered applicable to the Site. Concentrations of constituents detected in soil gas samples collected in April 2012 did not exceed the applicable soil gas screening criteria.

As established in the 2012 budgetary authorization approved by USEPA, RACER Trust will perform quarterly soil gas monitoring and semi-annual groundwater sampling at and around the Site in the second half of 2012 to evaluate existing conditions and confirm the Site-specific groundwater model.

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0101-P1	11/15/2004	8.13	9.85	826.36	818.23
MW-0101-P1	10/25/2005	9.51	9.98	826.36	816.85
MW-0101-P1	3/24/2006	Abandoned			
MW-0101-S1U	11/15/2004	11.15	17.50	826.36	815.21
MW-0101-S1U	10/25/2005	12.02	17.51	826.36	814.34
MW-0101-S1U	3/24/2006	10.52	17.23	826.36	815.84
MW-0101-S1U	3/31/2006	9.75	17.23	826.36	816.61
MW-0101-S1U	4/28/2006	10.42	---	826.36	815.94
MW-0101-S1U	12/5/2006	9.13	17.51	826.36	817.23
MW-0101-S1U	3/8/2007	10.21	17.51	826.36	816.15
MW-0101-S1U	1/16/2008	10.69	17.61	826.36	815.67
MW-0101-S1U	11/11/2008	14.31	17.46	826.36	812.05
MW-0101-S1U	2/17/2009	12.66	---	826.36	813.70
MW-0101-S1U	6/12/2009	11.18	---	826.36	815.18
MW-0101-S1U	3/29/2012	11.23	17.70	826.36	815.13
MW-0102-S1U	11/15/2004	11.10	26.00	826.36	815.26
MW-0102-S1U	9/20/2005	12.28	26.14	826.36	814.08
MW-0102-S1U	10/20/2005	12.12	26.28	826.36	814.24
MW-0102-S1U	10/25/2005	12.03	26.28	826.36	814.33
MW-0102-S1U	3/22/2006	10.50	25.90	826.36	815.86
MW-0102-S1U	3/31/2006	9.73	25.90	826.36	816.63
MW-0102-S1U	4/28/2006	10.47	---	826.36	815.89
MW-0102-S1U	12/5/2006	9.33	---	826.36	817.03
MW-0102-S1U	3/8/2007	10.32	26.28	826.36	816.04
MW-0102-S1U	1/16/2008	11.00	26.40	826.36	815.36
MW-0102-S1U	11/11/2008	14.33	26.26	826.36	812.03
MW-0102-S1U	2/17/2009	12.51	---	826.36	813.85
MW-0102-S1U	6/12/2009	11.18	---	826.36	815.18
MW-0102-S1U	3/29/2012	11.25	26.43	826.36	815.11
MW-0103-S1U	10/25/2005	13.47	---	828.15	814.68
MW-0103-S1U	11/15/2005	12.60	20.00	828.15	815.55
MW-0103-S1U	3/22/2006	12.03	19.76	828.15	816.12
MW-0103-S1U	3/31/2006	11.26	19.76	828.15	816.89
MW-0103-S1U	4/28/2006	11.91	---	828.15	816.24
MW-0103-S1U	12/5/2006	10.70	19.77	828.15	817.45
MW-0103-S1U	3/8/2007	11.71	19.76	828.15	816.44
MW-0103-S1U	1/16/2008	12.46	19.89	828.15	815.69
MW-0103-S1U	11/11/2008	15.87	19.81	828.15	812.28
MW-0103-S1U	2/17/2009	14.06	---	828.15	814.09
MW-0103-S1U	6/12/2009	12.63	---	828.15	815.52
MW-0501-P1	9/20/2005	12.09	18.85	828.62	816.53
MW-0501-P1	10/18/2005	13.22	18.95	828.62	815.40
MW-0501-P1	10/25/2005	12.97	18.95	828.62	815.65
MW-0501-P1	3/22/2006	12.67	18.95	828.62	815.95
MW-0501-P1	3/31/2006	11.84	18.95	828.62	816.78
MW-0501-P1	4/28/2006	11.29	---	828.62	817.33
MW-0501-P1	12/5/2006	10.46	18.69	828.62	818.16
MW-0501-P1	3/8/2007	10.79	18.71	828.62	817.83
MW-0501-P1	1/16/2008	11.82	18.80	828.62	816.80
MW-0501-P1	11/11/2008	14.48	18.71	828.62	814.14
MW-0501-P1	2/17/2009	11.93	---	828.62	816.69
MW-0501-S1	3/22/2006	12.18	34.39	828.65	816.47
MW-0501-S1	3/31/2006	11.41	34.39	828.65	817.24
MW-0501-S1	4/28/2006	12.07	---	828.65	816.58
MW-0501-S1	12/5/2006	10.84	33.95	828.65	817.81
MW-0501-S1	3/8/2007	11.90	33.74	828.65	816.75
MW-0501-S1	1/16/2008	12.67	33.95	828.65	815.98
MW-0501-S1	11/11/2008	16.10	33.60	828.65	812.55
MW-0501-S1	2/17/2009	14.44	---	828.65	814.21
MW-0501-S1	6/12/2009	12.77	---	828.65	815.88
MW-0501-S1	4/13/2010	12.52	33.33	828.65	816.13
MW-0501-S1	9/5/2010	15.30	33.00	828.65	813.35

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Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0501-S1	4/20/2011	12.12	32.98	828.65	816.53
MW-0501-S1	9/27/2011	13.26	33.14	828.65	815.39
MW-0501-S1	3/29/2012	12.89	33.11	828.65	815.76
MW-0501-S2	10/18/2005	14.87	76.30	828.75	813.88
MW-0501-S2	10/25/2005	15.02	76.30	828.75	813.73
MW-0501-S2	3/21/2006	12.83	76.30	828.75	815.92
MW-0501-S2	3/31/2006	11.98	76.30	828.75	816.77
MW-0501-S2	4/28/2006	12.00	---	828.75	816.75
MW-0501-S2	12/5/2006	9.83	76.13	828.75	818.92
MW-0501-S2	3/8/2007	11.79	76.09	828.75	816.96
MW-0501-S2	1/16/2008	14.80	76.20	828.75	813.95
MW-0501-S2	11/11/2008	21.21	76.12	828.75	807.54
MW-0501-S2	2/17/2009	17.60	---	828.75	811.15
MW-0501-S2	6/12/2009	15.49	---	828.75	813.26
MW-0501-S2	4/13/2010	14.37	76.12	828.75	814.38
MW-0501-S2	9/5/2010	19.74	76.11	828.75	809.01
MW-0501-S2	4/20/2011	15.01	76.00	828.75	813.74
MW-0501-S2	9/27/2011	17.44	75.24	828.75	811.31
MW-0501-S2	3/29/2012	14.62	76.21	828.75	814.13
MW-0501-S3	10/20/2005	15.00	94.98	828.78	813.78
MW-0501-S3	10/25/2005	15.04	94.98	828.78	813.74
MW-0501-S3	3/21/2006	12.81	94.98	828.78	815.97
MW-0501-S3	3/31/2006	12.06	94.98	828.78	816.72
MW-0501-S3	4/28/2006	12.02	---	828.78	816.76
MW-0501-S3	12/5/2006	10.48	94.75	828.78	818.30
MW-0501-S3	3/8/2007	11.86	94.64	828.78	816.92
MW-0501-S3	1/16/2008	14.86	94.80	828.78	813.92
MW-0501-S3	11/11/2008	21.27	94.85	828.78	807.51
MW-0501-S3	2/17/2009	17.68	---	828.78	811.10
MW-0501-S3	6/12/2009	15.58	---	828.78	813.20
MW-0501-S3	4/13/2010	14.42	94.73	828.78	814.36
MW-0501-S3	9/5/2010	19.82	96.05	828.78	808.96
MW-0501-S3	4/20/2011	15.11	94.60	828.78	813.67
MW-0501-S3	9/27/2011	17.44	94.90	828.78	811.34
MW-0502-S1	9/20/2005	12.20	32.59	826.34	814.14
MW-0502-S1	10/19/2005	11.91	32.78	826.34	814.43
MW-0502-S1	10/25/2005	11.91	32.78	826.34	814.43
MW-0502-S1	3/24/2006	10.41	32.54	826.34	815.93
MW-0502-S1	3/31/2006	9.64	32.54	826.34	816.70
MW-0502-S1	4/28/2006	10.32	---	826.34	816.02
MW-0502-S1	12/5/2006	9.25	---	826.34	817.09
MW-0502-S1	3/8/2007	10.12	32.50	826.34	816.22
MW-0502-S1	1/16/2008	10.95	32.62	826.34	815.39
MW-0502-S1	11/11/2008	14.22	32.40	826.34	812.12
MW-0502-S1	2/17/2009	12.54	---	826.34	813.80
MW-0502-S1	6/12/2009	11.04	---	826.34	815.30
MW-0502-S1	4/13/2010	10.78	32.55	826.34	815.56
MW-0502-S1	9/5/2010	13.46	32.60	826.34	812.88
MW-0502-S1	4/20/2011	10.29	32.45	826.34	816.05
MW-0502-S1	9/27/2011	11.44	32.65	826.34	814.90
MW-0502-S1	3/29/2012	11.08	32.61	826.34	815.26
MW-0503-S1	10/18/2005	12.51	32.57	826.82	814.31
MW-0503-S1	10/25/2005	12.51	32.57	826.82	814.31
MW-0503-S1	3/24/2006	11.09	32.27	826.82	815.73
MW-0503-S1	3/31/2006	10.32	32.27	826.82	816.50
MW-0503-S1	4/28/2006	11.00	---	826.82	815.82
MW-0503-S1	12/5/2006	9.84	---	826.82	816.98
MW-0503-S1	3/8/2007	10.80	32.32	826.82	816.02
MW-0503-S1	1/16/2008	11.57	32.42	826.82	815.25
MW-0503-S1	11/11/2008	14.75	32.20	826.82	812.07
MW-0503-S1	2/17/2009	12.96	---	826.82	813.86
MW-0503-S1	6/12/2009	11.68	---	826.82	815.14
MW-0503-S1	4/13/2010	11.46	32.16	826.82	815.36

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MW-0503-S1	9/5/2010	14.04	32.00	826.82	812.78
MW-0503-S1	4/20/2011	10.87	31.98	826.82	815.95
MW-0503-S1	9/27/2011	11.99	32.35	826.82	814.83
MW-0503-S1	3/29/2012	11.77	32.40	826.82	815.05
MW-0503-S2	10/18/2005	13.28	68.33	826.81	813.53
MW-0503-S2	10/25/2005	13.27	68.33	826.81	813.54
MW-0503-S2	3/24/2006	10.38	68.05	826.81	816.43
MW-0503-S2	3/31/2006	9.53	68.05	826.81	817.28
MW-0503-S2	4/28/2006	10.51	---	826.81	816.30
MW-0503-S2	12/5/2006	9.06	---	826.81	817.75
MW-0503-S2	3/8/2007	10.28	68.13	826.81	816.53
MW-0503-S2	1/16/2008	12.92	68.30	826.81	813.89
MW-0503-S2	11/11/2008	18.80	68.19	826.81	808.01
MW-0503-S2	2/17/2009	15.41	---	826.81	811.40
MW-0503-S2	6/12/2009	13.57	---	826.81	813.24
MW-0504-I2	10/18/2005	19.66	39.87	826.51	806.85
MW-0504-I2	10/25/2005	13.03	39.87	826.51	813.48
MW-0504-I2	3/27/2006	11.53	39.61	826.51	814.98
MW-0504-I2	3/31/2006	10.71	39.61	826.51	815.80
MW-0504-I2	4/28/2006	11.19	---	826.51	815.32
MW-0504-I2	12/5/2006	10.08	---	826.51	816.43
MW-0504-I2	3/8/2007	11.60	39.65	826.51	814.91
MW-0504-I2	1/16/2008	11.67	39.80	826.51	814.84
MW-0504-I2	11/11/2008	14.84	39.71	826.51	811.67
MW-0504-I2	2/17/2009	12.99	---	826.51	813.52
MW-0504-S1	9/20/2005	12.51	29.73	826.15	813.64
MW-0504-S1	10/18/2005	12.25	29.19	826.15	813.90
MW-0504-S1	10/25/2005	12.23	29.19	826.15	813.92
MW-0504-S1	3/27/2006	11.10	28.69	826.15	815.05
MW-0504-S1	3/31/2006	10.33	28.69	826.15	815.82
MW-0504-S1	4/28/2006	10.88	---	826.15	815.27
MW-0504-S1	12/5/2006	10.78	---	826.15	815.37
MW-0504-S1	3/8/2007	10.68	30.82	826.15	815.47
MW-0504-S1	1/16/2008	11.25	30.90	826.15	814.90
MW-0504-S1	11/11/2008	14.40	30.76	826.15	811.75
MW-0504-S1	2/17/2009	12.58	---	826.15	813.57
MW-0504-S1	6/12/2009	11.51	---	826.15	814.64
MW-0504-S2	3/27/2006	10.23	60.45	826.41	816.18
MW-0504-S2	3/31/2006	9.38	60.45	826.41	817.03
MW-0504-S2	4/28/2006	10.11	---	826.41	816.30
MW-0504-S2	12/5/2006	8.70	---	826.41	817.71
MW-0504-S2	3/8/2007	10.00	60.52	826.41	816.41
MW-0504-S2	1/16/2008	12.50	60.63	826.41	813.91
MW-0504-S2	11/11/2008	18.46	60.55	826.41	807.95
MW-0504-S2	2/17/2009	14.97	---	826.41	811.44
MW-0504-S2	6/12/2009	13.14	---	826.41	813.27
MW-0505-B1	12/5/2006	8.69	---	826.5	817.81
MW-0505-B1	3/8/2007	8.98	83.90	826.5	817.52
MW-0505-B1	1/16/2008	11.56	83.95	826.5	814.94
MW-0505-B1	11/11/2008	17.51	83.90	826.5	808.99
MW-0505-B1	2/17/2009	14.06	---	826.5	812.44
MW-0505-B1	6/12/2009	12.18	---	826.5	814.32
MW-0505-B1	4/13/2010	11.21	83.97	826.5	815.29
MW-0505-B1	9/5/2010	16.22	84.00	826.5	810.28
MW-0505-B1	4/20/2011	11.65	83.82	826.5	814.85
MW-0505-B1	9/27/2011	14.56	84.08	826.5	811.94
MW-0505-S1	9/20/2005	11.42	39.00	825.44	814.02
MW-0505-S1	10/19/2005	11.19	40.28	825.44	814.25
MW-0505-S1	10/25/2005	11.16	40.28	825.44	814.28
MW-0505-S1	3/23/2006	9.70	40.00	825.44	815.74
MW-0505-S1	3/31/2006	8.93	40.00	825.44	816.51

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0505-S1	4/28/2006	9.69	---	825.44	815.75
MW-0505-S1	12/5/2006	8.52	---	825.44	816.92
MW-0505-S1	3/8/2007	9.48	40.71	825.44	815.96
MW-0505-S1	1/16/2008	10.15	40.80	825.44	815.29
MW-0505-S1	11/11/2008	13.46	40.65	825.44	811.98
MW-0505-S1	2/17/2009	11.63	---	825.44	813.81
MW-0505-S1	6/12/2009	10.34	---	825.44	815.10
MW-0505-S2	10/19/2005	12.37	67.63	825.06	812.69
MW-0505-S2	10/25/2005	11.42	67.63	825.06	813.64
MW-0505-S2	3/23/2006	9.59	67.32	825.06	815.47
MW-0505-S2	3/31/2006	8.74	67.32	825.06	816.32
MW-0505-S2	4/28/2006	9.65	---	825.06	815.41
MW-0505-S2	12/5/2006	7.27	---	825.06	817.79
MW-0505-S2	3/8/2007	8.55	67.45	825.06	816.51
MW-0505-S2	1/16/2008	11.10	67.50	825.06	813.96
MW-0505-S2	11/11/2008	17.04	67.45	825.06	808.02
MW-0505-S2	2/17/2009	13.63	---	825.06	811.43
MW-0505-S2	6/12/2009	11.76	---	825.06	813.30
MW-0505-S2	4/13/2010	11.74	67.38	825.06	813.32
MW-0505-S2	9/5/2010	15.76	67.50	825.06	809.30
MW-0505-S2	4/20/2011	11.23	67.35	825.06	813.83
MW-0505-S2	9/27/2011	13.51	67.60	825.06	811.55
MW-0505-S2	3/29/2012	11.03	67.55	825.06	814.03
MW-0506-I2	10/19/2005	24.10	47.56	827.18	803.08
MW-0506-I2	10/25/2005	22.82	47.56	827.18	804.36
MW-0506-I2	3/27/2006	17.97	47.27	827.18	809.21
MW-0506-I2	3/31/2006	17.15	47.27	827.18	810.03
MW-0506-I2	4/28/2006	20.02	---	827.18	807.16
MW-0506-I2	12/5/2006	19.82	---	827.18	807.36
MW-0506-I2	3/8/2007	15.48	47.35	827.18	811.70
MW-0506-I2	1/16/2008	14.57	47.50	827.18	812.61
MW-0506-I2	11/11/2008	15.71	47.38	827.18	811.47
MW-0506-I2	2/17/2009	16.63	---	827.18	810.55
MW-0506-S1	10/19/2005	13.11	34.84	826.88	813.77
MW-0506-S1	10/25/2005	13.11	34.84	826.88	813.77
MW-0506-S1	3/27/2006	11.96	34.55	826.88	814.92
MW-0506-S1	3/31/2006	11.19	34.55	826.88	815.69
MW-0506-S1	4/28/2006	11.76	---	826.88	815.12
MW-0506-S1	12/5/2006	10.72	---	826.88	816.16
MW-0506-S1	3/8/2007	11.54	34.62	826.88	815.34
MW-0506-S1	1/16/2008	12.21	34.35	826.88	814.67
MW-0506-S1	11/11/2008	15.21	34.65	826.88	811.67
MW-0506-S1	2/17/2009	13.40	---	826.88	813.48
MW-0506-S1	6/12/2009	12.38	---	826.88	814.50
MW-0506-S2	10/19/2005	13.58	72.52	827.1	813.52
MW-0506-S2	10/25/2005	13.58	72.52	827.1	813.52
MW-0506-S2	3/27/2006	11.95	72.24	827.1	815.15
MW-0506-S2	3/31/2006	11.10	72.24	827.1	816.00
MW-0506-S2	4/28/2006	10.84	---	827.1	816.26
MW-0506-S2	12/5/2006	9.43	---	827.1	817.67
MW-0506-S2	3/8/2007	11.72	72.26	827.1	815.38
MW-0506-S2	1/16/2008	13.20	72.40	827.1	813.90
MW-0506-S2	11/11/2008	19.11	72.35	827.1	807.99
MW-0506-S2	2/17/2009	15.69	---	827.1	811.41
MW-0506-S2	6/12/2009	13.87	---	827.1	813.23
MW-0506-S2	3/29/2012	13.13	72.41	827.1	813.97
MW-0507-S1	10/19/2005	13.15	33.49	827.19	814.04
MW-0507-S1	10/25/2005	13.12	33.49	827.19	814.07
MW-0507-S1	3/27/2006	11.86	33.18	827.19	815.33
MW-0507-S1	3/31/2006	11.09	33.18	827.19	816.10
MW-0507-S1	4/28/2006	11.69	---	827.19	815.50
MW-0507-S1	12/5/2006	10.58	---	827.19	816.61

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0507-S1	3/8/2007	11.48	33.19	827.19	815.71
MW-0507-S1	1/16/2008	12.18	33.35	827.19	815.01
MW-0507-S1	11/11/2008	15.27	33.15	827.19	811.92
MW-0507-S1	2/17/2009	13.50	---	827.19	813.69
MW-0507-S1	6/12/2009	12.33	---	827.19	814.86
MW-0507-S1	4/13/2010	12.13	33.27	827.19	815.06
MW-0507-S1	9/5/2010	14.61	33.20	827.19	812.58
MW-0507-S1	4/20/2011	11.54	33.16	827.19	815.65
MW-0507-S1	9/27/2011	12.60	33.35	827.19	814.59
MW-0507-S1	3/29/2012	12.41	33.32	827.19	814.78
MW-0509-I2	10/19/2005	12.58	55.96	826.32	813.74
MW-0509-I2	10/25/2005	12.66	55.96	826.32	813.66
MW-0509-I2	3/23/2006	9.87	55.65	826.32	816.45
MW-0509-I2	3/31/2006	9.05	55.65	826.32	817.27
MW-0509-I2	4/28/2006	9.81	---	826.32	816.51
MW-0509-I2	12/5/2006	8.36	55.74	826.32	817.96
MW-0509-I2	3/8/2007	9.68	55.67	826.32	816.64
MW-0509-I2	1/16/2008	12.37	55.79	826.32	813.95
MW-0509-I2	11/11/2008	18.42	55.60	826.32	807.90
MW-0509-I2	2/17/2009	14.94	---	826.32	811.38
MW-0509-S1	9/20/2005	12.18	38.00	826.33	814.15
MW-0509-S1	10/25/2005	11.92	38.11	826.33	814.41
MW-0509-S1	3/23/2006	10.43	37.82	826.33	815.90
MW-0509-S1	3/31/2006	9.66	37.82	826.33	816.67
MW-0509-S1	4/28/2006	10.35	---	826.33	815.98
MW-0509-S1	12/5/2006	9.20	37.90	826.33	817.13
MW-0509-S1	3/8/2007	10.20	37.89	826.33	816.13
MW-0509-S1	1/16/2008	10.89	38.00	826.33	815.44
MW-0509-S1	11/11/2008	14.24	37.92	826.33	812.09
MW-0509-S1	2/17/2009	12.38	---	826.33	813.95
MW-0509-S1	6/12/2009	11.04	---	826.33	815.29
MW-0509-S1	4/13/2010	10.82	37.91	826.33	815.51
MW-0509-S1	9/5/2010	13.45	37.90	826.33	812.88
MW-0509-S1	4/20/2011	10.29	37.85	826.33	816.04
MW-0509-S1	9/27/2011	11.43	38.08	826.33	814.90
MW-0509-S1	3/29/2012	11.13	38.00	826.33	815.20
MW-0516-S1	10/19/2005	13.42	32.88	827.98	814.56
MW-0516-S1	10/25/2005	13.42	32.88	827.98	814.56
MW-0516-S1	3/23/2006	11.88	32.61	827.98	816.10
MW-0516-S1	3/31/2006	11.13	32.61	827.98	816.85
MW-0516-S1	4/28/2006	11.78	---	827.98	816.20
MW-0516-S1	12/5/2006	10.11	---	827.98	817.87
MW-0516-S1	3/8/2007	11.59	32.66	827.98	816.39
MW-0516-S1	1/16/2008	12.35	32.40	827.98	815.63
MW-0516-S1	11/11/2008	15.74	32.60	827.98	812.24
MW-0516-S1	2/17/2009	14.00	---	827.98	813.98
MW-0516-S1	6/12/2009	12.52	---	827.98	815.46
MW-0516-S1	4/13/2010	12.24	32.70	827.98	815.74
MW-0516-S1	9/5/2010	14.96	32.65	827.98	813.02
MW-0516-S1	4/20/2011	11.31	32.60	827.98	816.67
MW-0516-S1	9/27/2011	12.92	32.84	827.98	815.06
MW-0516-S1	3/29/2012	12.59	32.80	827.98	815.39
MW-0516-S2	10/20/2005	14.37	68.38	827.97	813.60
MW-0516-S2	10/25/2005	14.38	68.38	827.97	813.59
MW-0516-S2	3/23/2006	11.46	68.05	827.97	816.51
MW-0516-S2	3/31/2006	10.61	68.05	827.97	817.36
MW-0516-S2	4/28/2006	11.55	---	827.97	816.42
MW-0516-S2	12/5/2006	10.55	---	827.97	817.42
MW-0516-S2	3/8/2007	11.40	68.11	827.97	816.57
MW-0516-S2	1/16/2008	14.11	68.26	827.97	813.86
MW-0516-S2	11/11/2008	19.99	68.05	827.97	807.98
MW-0516-S2	2/17/2009	16.58	---	827.97	811.39
MW-0516-S2	6/12/2009	14.71	---	827.97	813.26

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0516-S2	4/13/2010	13.72	68.18	827.97	814.25
MW-0516-S2	4/20/2011	14.02	68.10	827.97	813.95
MW-0516-S2	3/29/2012			827.97	827.97
MW-0517-I2	10/18/2005	13.02	40.13	826.56	813.54
MW-0517-I2	10/25/2005	12.45	40.13	826.56	814.11
MW-0517-I2	3/22/2006	10.25	39.89	826.56	816.31
MW-0517-I2	3/31/2006	9.45	39.89	826.56	817.11
MW-0517-I2	4/28/2006	10.73	---	826.56	815.83
MW-0517-I2	12/5/2006	10.10	---	826.56	816.46
MW-0517-I2	3/8/2007	10.61	39.90	826.56	815.95
MW-0517-I2	1/16/2008	12.55	40.05	826.56	814.01
MW-0517-I2	11/11/2008	15.14	39.96	826.56	811.42
MW-0517-I2	2/17/2009	13.32	---	826.56	813.24
MW-0517-S1	9/20/2005	12.44	30.72	826.47	814.03
MW-0517-S1	10/18/2005	12.17	30.85	826.47	814.30
MW-0517-S1	10/25/2005	12.17	30.85	826.47	814.30
MW-0517-S1	3/22/2006	10.70	30.63	826.47	815.77
MW-0517-S1	3/31/2006	9.91	30.63	826.47	816.56
MW-0517-S1	4/28/2006	10.64	---	826.47	815.83
MW-0517-S1	12/5/2006	9.48	---	826.47	816.99
MW-0517-S1	3/8/2007	10.42	30.51	826.47	816.05
MW-0517-S1	1/16/2008	11.23	30.70	826.47	815.24
MW-0517-S1	11/11/2008	14.47	30.60	826.47	812.00
MW-0517-S1	2/17/2009	12.65	---	826.47	813.82
MW-0517-S1	6/12/2009	11.34	---	826.47	815.13
MW-0602-B1	3/24/2006	9.12	86.17	825.36	816.24
MW-0602-B1	3/31/2006	8.32	86.17	825.36	817.04
MW-0602-B1	4/28/2006	9.16	---	825.36	816.20
MW-0602-B1	12/5/2006	7.78	---	825.36	817.58
MW-0602-B1	3/8/2007	9.03	86.21	825.36	816.33
MW-0602-B1	1/16/2008	11.55	86.25	825.36	813.81
MW-0602-B1	11/11/2008	17.37	86.27	825.36	807.99
MW-0602-B1	2/17/2009	13.94	---	825.36	811.42
MW-0602-B1	6/12/2009	12.16	---	825.36	813.20
MW-0602-B1	4/13/2010	11.04	86.31	825.36	814.32
MW-0602-B1	9/5/2010	16.11	86.90	825.36	809.25
MW-0602-B1	4/20/2011	11.61	86.19	825.36	813.75
MW-0602-B1	9/27/2011	13.80	86.45	825.36	811.56
MW-0602-S1	3/24/2006	11.70	28.31	825.3	813.60
MW-0602-S1	3/31/2006	10.93	28.31	825.3	814.37
MW-0602-S1	4/28/2006	10.90	---	825.3	814.40
MW-0602-S1	12/5/2006	9.94	---	825.3	815.36
MW-0602-S1	3/8/2007	10.68	27.20	825.3	814.62
MW-0602-S1	1/16/2008	11.10	27.41	825.3	814.20
MW-0602-S1	11/11/2008	13.93	27.11	825.3	811.37
MW-0602-S1	2/17/2009	12.20	---	825.3	813.10
MW-0602-S1	6/12/2009	11.71	---	825.3	813.59
MW-0602-S1	4/13/2010	11.36	27.31	825.3	813.94
MW-0602-S1	9/5/2010	12.79	27.24	825.3	812.51
MW-0602-S1	4/20/2011	11.01	27.07	825.3	814.29
MW-0602-S1	9/27/2011	11.65	27.39	825.3	813.65
MW-0602-S1	3/29/2012	11.30	27.20	825.3	814.00
MW-0603-B1	3/24/2006	9.70	83.40	826.2	816.50
MW-0603-B1	3/31/2006	8.92	83.40	826.2	817.28
MW-0603-B1	4/28/2006	9.76	---	826.2	816.44
MW-0603-B1	12/5/2006	8.35	---	826.2	817.85
MW-0603-B1	3/8/2007	9.64	83.32	826.2	816.56
MW-0603-B1	1/16/2008	12.13	83.48	826.2	814.07
MW-0603-B1	11/11/2008	18.04	83.24	826.2	808.16
MW-0603-B1	2/17/2009	14.69	---	826.2	811.51
MW-0603-B1	6/12/2009	12.86	---	826.2	813.34
MW-0603-B1	4/13/2010	11.82	83.38	826.2	814.38

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0603-B1	9/5/2010	16.78	83.35	826.2	809.42
MW-0603-B1	4/20/2011	12.27	83.22	826.2	813.93
MW-0603-B1	9/27/2011	14.47	83.55	826.2	811.73
MW-0603-S1	3/24/2006	10.79	24.38	826.09	815.30
MW-0603-S1	3/31/2006	10.02	24.38	826.09	816.07
MW-0603-S1	4/28/2006	10.71	---	826.09	815.38
MW-0603-S1	12/5/2006	9.59	---	826.09	816.50
MW-0603-S1	3/8/2007	10.46	24.12	826.09	815.63
MW-0603-S1	1/16/2008	11.06	24.33	826.09	815.03
MW-0603-S1	11/11/2008	14.15	24.15	826.09	811.94
MW-0603-S1	2/17/2009	12.35	---	826.09	813.74
MW-0603-S1	6/12/2009	11.25	---	826.09	814.84
MW-0603-S1	4/13/2010	11.06	24.31	826.09	815.03
MW-0603-S1	9/5/2010	13.46	24.20	826.09	812.63
MW-0603-S1	4/20/2011	10.44	24.10	826.09	815.65
MW-0603-S1	9/27/2011	11.53	24.22	826.09	814.56
MW-0603-S1	3/29/2012	11.33	24.15	826.09	814.76
MW-0603-S2	3/24/2006	10.82	69.25	826.1	815.28
MW-0603-S2	3/31/2006	9.97	69.25	826.1	816.13
MW-0603-S2	4/28/2006	9.89	---	826.1	816.21
MW-0603-S2	12/5/2006	8.46	---	826.1	817.64
MW-0603-S2	3/8/2007	9.78	69.27	826.1	816.32
MW-0603-S2	1/16/2008	12.35	69.41	826.1	813.75
MW-0603-S2	11/11/2008	18.17	69.21	826.1	807.93
MW-0603-S2	2/17/2009	14.83	---	826.1	811.27
MW-0603-S2	6/12/2009	12.98	---	826.1	813.12
MW-0603-S2	4/13/2010	11.96	69.35	826.1	814.14
MW-0603-S2	9/5/2010	16.72	69.25	826.1	809.38
MW-0603-S2	4/20/2011	12.19	69.04	826.1	813.91
MW-0603-S2	9/27/2011	14.39	69.35	826.1	811.71
MW-0603-S2	3/29/2012	12.07	69.28	826.1	814.03
MW-0604-S1	3/22/2006	10.65	29.41	826.28	815.63
MW-0604-S1	3/31/2006	9.87	29.41	826.28	816.41
MW-0604-S1	4/28/2006	10.59	---	826.28	815.69
MW-0604-S1	12/5/2006	9.45	---	826.28	816.83
MW-0604-S1	3/8/2007	10.37	28.81	826.28	815.91
MW-0604-S1	1/16/2008	11.15	28.95	826.28	815.13
MW-0604-S1	11/11/2008	14.27	28.73	826.28	812.01
MW-0604-S1	2/17/2009	12.51	---	826.28	813.77
MW-0604-S1	6/12/2009	11.26	---	826.28	815.02
MW-0604-S2	3/22/2006	10.02	61.06	826.44	816.42
MW-0604-S2	3/31/2006	9.27	61.06	826.44	817.17
MW-0604-S2	4/28/2006	10.13	---	826.44	816.31
MW-0604-S2	12/5/2006	8.70	---	826.44	817.74
MW-0604-S2	3/8/2007	9.93	61.12	826.44	816.51
MW-0604-S2	1/16/2008	12.51	61.21	826.44	813.93
MW-0604-S2	11/11/2008	18.45	61.05	826.44	807.99
MW-0604-S2	2/17/2009	15.02	---	826.44	811.42
MW-0604-S2	6/12/2009	13.17	---	826.44	813.27
MW-0604-S2	4/13/2010	12.17	61.10	826.44	814.27
MW-0604-S2	9/5/2010	17.17	61.55	826.44	809.27
MW-0604-S2	4/20/2011	12.63	61.00	826.44	813.81
MW-0604-S2	9/27/2011	14.89	61.32	826.44	811.55
MW-0604-S2	3/29/2012	12.41	61.23	826.44	814.03
MW-0605-B1	3/22/2006	10.79	89.55	827.44	816.65
MW-0605-B1	3/31/2006	9.99	89.55	827.44	817.45
MW-0605-B1	4/28/2006	10.95	---	827.44	816.49
MW-0605-B1	12/5/2006	9.49	---	827.44	817.95
MW-0605-B1	3/8/2007	10.77	89.53	827.44	816.67
MW-0605-B1	1/16/2008	13.45	89.65	827.44	813.99
MW-0605-B1	11/11/2008	19.44	89.60	827.44	808.00
MW-0605-B1	2/17/2009	16.04	---	827.44	811.40

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0605-B1	6/12/2009	14.11	---	827.44	813.33
MW-0605-B1	4/13/2010	13.10	89.85	827.44	814.34
MW-0605-B1	9/5/2010	18.20	89.60	827.44	809.24
MW-0605-B1	4/20/2011	13.61	89.50	827.44	813.83
MW-0605-B1	9/27/2011	15.86	89.75	827.44	811.58
MW-0605-S1	3/22/2006	11.23	29.83	827.38	816.15
MW-0605-S1	3/31/2006	10.46	29.83	827.38	816.92
MW-0605-S1	4/28/2006	11.19	---	827.38	816.19
MW-0605-S1	12/5/2006	9.97	---	827.38	817.41
MW-0605-S1	3/8/2007	10.98	29.64	827.38	816.40
MW-0605-S1	1/16/2008	11.79	29.71	827.38	815.59
MW-0605-S1	11/11/2008	15.14	29.65	827.38	812.24
MW-0605-S1	2/17/2009	13.42	---	827.38	813.96
MW-0605-S1	6/12/2009	11.91	---	827.38	815.47
MW-0605-S1	4/13/2010	11.64	29.65	827.38	815.74
MW-0605-S1	9/5/2010	14.37	29.64	827.38	813.01
MW-0605-S1	4/20/2011	11.20	29.50	827.38	816.18
MW-0605-S1	9/27/2011	12.35	29.82	827.38	815.03
MW-0605-S1	3/29/2012	11.90	29.75	827.38	815.48
MW-0605-S2	3/22/2006	10.87	61.15	827.38	816.51
MW-0605-S2	3/31/2006	10.02	61.15	827.38	817.36
MW-0605-S2	4/28/2006	10.91	---	827.38	816.47
MW-0605-S2	12/5/2006	9.44	---	827.38	817.94
MW-0605-S2	3/8/2007	10.72	61.13	827.38	816.66
MW-0605-S2	1/16/2008	13.36	61.26	827.38	814.02
MW-0605-S2	11/11/2008	19.36	61.12	827.38	808.02
MW-0605-S2	2/17/2009	15.97	---	827.38	811.41
MW-0605-S2	6/12/2009	14.06	---	827.38	813.32
MW-0605-S2	4/13/2010	13.05	61.18	827.38	814.33
MW-0605-S2	9/5/2010	18.12	61.20	827.38	809.26
MW-0605-S2	4/20/2011	13.55	61.11	827.38	813.83
MW-0605-S2	9/27/2011	15.82	61.35	827.38	811.56
MW-0606-S2	3/29/2012	13.25	61.28	827.38	814.13
MW-0606-S1	3/23/2006	8.80	31.65	824.1	815.30
MW-0606-S1	3/31/2006	8.03	31.65	824.1	816.07
MW-0606-S1	4/28/2006	8.71	---	824.1	815.39
MW-0606-S1	12/5/2006	7.67	---	824.1	816.43
MW-0606-S1	3/8/2007	8.54	31.52	824.1	815.56
MW-0606-S1	11/11/2008	12.36	31.40	824.1	811.74
MW-0606-S1	2/17/2009	10.43	---	824.1	813.67
MW-0606-S1	6/12/2009	8.38	---	824.1	815.72
MW-0606-S1	4/13/2010	9.20	31.42	824.1	814.90
MW-0606-S2	3/23/2006	7.68	58.83	823.97	816.29
MW-0606-S2	3/31/2006	6.93	58.83	823.97	817.04
MW-0606-S2	4/28/2006	8.72	---	823.97	815.25
MW-0606-S2	12/5/2006	6.35	---	823.97	817.62
MW-0606-S2	3/8/2007	7.61	58.67	823.97	816.36
MW-0606-S2	11/11/2008	15.92	58.70	823.97	808.05
MW-0606-S2	2/17/2009	12.51	---	823.97	811.46
MW-0606-S2	6/12/2009	10.68	---	823.97	813.29
MW-0606-S2	9/5/2010	14.62	59.00	823.97	809.35
MW-0606-S2	4/20/2011	10.15	58.63	823.97	813.82
MW-0606-S2	9/27/2011	12.38	58.90	823.97	811.59
MW-0606-S2	3/29/2012	10.00	58.80	823.97	813.97
MW-0607-B1	1/16/2008	8.40	77.51	822.768	814.37
MW-0607-B1	11/11/2008	13.99	77.42	822.768	808.78
MW-0607-B1	2/17/2009	10.63	---	822.768	812.14
MW-0607-B1	6/12/2009	8.95	---	822.768	813.82
MW-0607-B1	4/13/2010	8.02	77.46	822.768	814.75
MW-0607-B1	9/5/2010	12.50	78.00	822.768	810.27
MW-0607-B1	4/20/2011	8.41	77.44	822.768	814.36
MW-0607-B1	9/27/2011	10.60	77.62	822.768	812.17

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0607-S1	3/24/2006	8.55	26.85	822.65	814.10
MW-0607-S1	3/31/2006	7.78	26.85	822.65	814.87
MW-0607-S1	4/28/2006	8.52	---	822.65	814.13
MW-0607-S1	12/5/2006	7.68	---	822.65	814.97
MW-0607-S1	3/8/2007	8.33	26.55	822.65	814.32
MW-0607-S1	1/16/2008	8.88	26.68	822.65	813.77
MW-0607-S1	11/11/2008	11.61	26.50	822.65	811.04
MW-0607-S1	2/17/2009	9.72	---	822.65	812.93
MW-0607-S1	6/12/2009	9.12	---	822.65	813.53
MW-0607-S1	4/13/2010	9.00	26.50	822.65	813.65
MW-0607-S1	9/5/2010	10.98	26.50	822.65	811.67
MW-0607-S1	4/20/2011	8.49	26.42	822.65	814.16
MW-0607-S1	9/27/2011	9.31	26.40	822.65	813.34
MW-0607-S1	3/29/2012	9.26	26.27	822.65	813.39
MW-0607-S2	3/8/2007	7.00	50.51	823.06	816.06
MW-0607-S2	1/16/2008	9.27	50.65	823.06	813.79
MW-0607-S2	11/11/2008	14.91	50.57	823.06	808.15
MW-0607-S2	2/17/2009	11.53	---	823.06	811.53
MW-0607-S2	6/12/2009	9.83	---	823.06	813.23
MW-0607-S2	4/13/2010	8.78	50.58	823.06	814.28
MW-0607-S2	9/5/2010	13.63	57.05	823.06	809.43
MW-0607-S2	4/20/2011	9.15	50.47	823.06	813.91
MW-0607-S2	9/27/2011	11.47	50.72	823.06	811.59
MW-0607-S2	3/29/2012	9.21	50.68	823.06	813.85
MW-0608-B1	3/23/2006	9.84	91.07	825.97	816.13
MW-0608-B1	3/31/2006	9.05	91.07	825.97	816.92
MW-0608-B1	4/28/2006	9.79	---	825.97	816.18
MW-0608-B1	12/5/2006	8.51	---	825.97	817.46
MW-0608-B1	3/8/2007	9.72	89.59	825.97	816.25
MW-0608-B1	1/16/2008	12.18	89.67	825.97	813.79
MW-0608-B1	11/11/2008	17.90	89.65	825.97	808.07
MW-0608-B1	2/17/2009	14.49	---	825.97	811.48
MW-0608-B1	6/12/2009	12.72	---	825.97	813.25
MW-0608-B1	4/13/2010	11.69	83.99	825.97	814.28
MW-0608-B1	9/5/2010	16.58	90.08	825.97	809.39
MW-0608-B1	4/20/2011	12.25	89.52	825.97	813.72
MW-0608-B1	9/27/2011	14.36	89.75	825.97	811.61
MW-0608-S1	3/23/2006	11.74	30.81	825.97	814.23
MW-0608-S1	3/31/2006	10.97	30.81	825.97	815.00
MW-0608-S1	4/28/2006	11.66	---	825.97	814.31
MW-0608-S1	12/5/2006	10.73	---	825.97	815.24
MW-0608-S1	3/8/2007	11.43	30.38	825.97	814.54
MW-0608-S1	1/16/2008	11.94	30.45	825.97	814.03
MW-0608-S1	11/11/2008	14.67	30.20	825.97	811.30
MW-0608-S1	2/17/2009	12.93	---	825.97	813.04
MW-0608-S1	6/12/2009	12.27	---	825.97	813.70
MW-0608-S1	4/13/2010	12.13	30.11	825.97	813.84
MW-0608-S1	9/5/2010	14.08	29.96	825.97	811.89
MW-0608-S1	4/20/2011	11.50	29.90	825.97	814.47
MW-0608-S1	9/27/2011	12.38	30.00	825.97	813.59
MW-0608-S1	3/29/2012	12.19	30.02	825.97	813.78
MW-0608-S2	3/23/2006	9.71	67.75	825.97	816.26
MW-0608-S2	3/31/2006	8.86	67.75	825.97	817.11
MW-0608-S2	4/28/2006	9.76	---	825.97	816.21
MW-0608-S2	12/5/2006	8.43	---	825.97	817.54
MW-0608-S2	3/8/2007	9.70	67.76	825.97	816.27
MW-0608-S2	1/16/2008	12.10	68.91	825.97	813.87
MW-0608-S2	11/11/2008	17.84	67.80	825.97	808.13
MW-0608-S2	2/17/2009	14.45	---	825.97	811.52
MW-0608-S2	6/12/2009	12.68	---	825.97	813.29
MW-0608-S2	4/13/2010	11.59	67.85	825.97	814.38
MW-0608-S2	9/5/2010	16.55	68.25	825.97	809.42

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0608-S2	4/20/2011	12.12	67.70	825.97	813.85
MW-0608-S2	9/27/2011	14.31	67.99	825.97	811.66
MW-0608-S2	3/29/2012	11.90	67.90	825.97	814.07
MW-0609-S1	3/23/2006	9.49	28.45	822.75	813.26
MW-0609-S1	3/31/2006	9.17	28.45	822.75	813.58
MW-0609-S1	4/28/2006	9.47	---	822.75	813.28
MW-0609-S1	12/5/2006	8.62	---	822.75	814.13
MW-0609-S1	3/9/2007	9.15	27.05	822.75	813.60
MW-0609-S1	1/16/2008	9.45	27.40	822.75	813.30
MW-0609-S1	11/11/2008	11.81	27.05	822.75	810.94
MW-0609-S1	2/17/2009	10.22	---	822.75	812.53
MW-0609-S1	6/12/2009	9.73	---	822.75	813.02
MW-0609-S1	4/13/2010	9.84	26.99	822.75	812.91
MW-0609-S1	9/5/2010	11.35	27.05	822.75	811.40
MW-0609-S1	4/20/2011	9.13	27.00	822.75	813.62
MW-0609-S1	9/27/2011	9.85	27.04	822.75	812.90
MW-0609-S1	3/29/2012	9.76	27.11	822.75	812.99
MW-0609-S2	12/5/2006	5.68	---	823.09	817.41
MW-0609-S2	3/8/2007	6.93	61.32	823.09	816.16
MW-0609-S2	1/16/2008	9.24	61.44	823.09	813.85
MW-0609-S2	11/11/2008	14.97	61.30	823.09	808.12
MW-0609-S2	2/17/2009	11.60	---	823.09	811.49
MW-0609-S2	6/12/2009	9.86	---	823.09	813.23
MW-0609-S2	4/13/2010	8.77	62.43	823.09	814.32
MW-0609-S2	9/5/2010	13.69	61.45	823.09	809.40
MW-0609-S2	4/20/2011	9.22	61.30	823.09	813.87
MW-0609-S2	9/27/2011	11.52	61.59	823.09	811.57
MW-0609-S2	3/29/2012	9.15	61.52	823.09	813.94
MW-0610-S1	12/5/2006	8.87	---	822.55	813.68
MW-0610-S1	3/8/2007	9.42	31.55	822.55	813.13
MW-0610-S1	1/16/2008	9.97	31.59	822.55	812.58
MW-0610-S1	11/11/2008	11.85	31.46	822.55	810.70
MW-0610-S1	2/17/2009	10.39	---	822.55	812.16
MW-0610-S1	6/12/2009	10.07	---	822.55	812.48
MW-0610-S1	4/13/2010	10.28	31.49	822.55	812.27
MW-0610-S1	9/5/2010	11.55	31.65	822.55	811.00
MW-0610-S1	4/20/2011	9.55	31.42	822.55	813.00
MW-0610-S1	9/27/2011	11.18	31.68	822.55	811.37
MW-0610-S1	3/29/2012	10.13	31.64	822.55	812.42
MW-0611-S1	12/5/2006	4.97	---	821.77	816.80
MW-0611-S1	3/8/2007	7.45	17.60	821.77	814.32
MW-0611-S1	1/16/2008	8.06	17.70	821.77	813.71
MW-0611-S1	2/17/2009	11.15	---	821.77	810.62
MW-0611-S1	6/12/2009	10.00	---	821.77	811.77
MW-0611-S1	4/13/2010	8.85	17.60	821.77	812.92
MW-0611-S1	9/5/2010	12.67	17.65	821.77	809.10
MW-0612-S1	12/5/2006	9.13	---	823.85	814.72
MW-0612-S1	3/8/2007	8.90	27.12	823.85	814.95
MW-0612-S1	1/16/2008	9.50	27.25	823.85	814.35
MW-0612-S1	11/11/2008	12.44	27.15	823.85	811.41
MW-0612-S1	2/17/2009	10.59	---	823.85	813.26
MW-0612-S1	6/12/2009	9.71	---	823.85	814.14
MW-0612-S1	3/29/2012	9.79	27.30	823.85	814.06
MW-0612-S2	12/5/2006	6.34	---	823.84	817.50
MW-0612-S2	3/8/2007	7.59	54.94	823.84	816.25
MW-0612-S2	1/16/2008	10.00	55.10	823.84	813.84
MW-0612-S2	11/11/2008	15.74	55.00	823.84	808.10
MW-0612-S2	2/17/2009	12.34	---	823.84	811.50
MW-0612-S2	6/12/2009	10.57	---	823.84	813.27
MW-0612-S2	3/29/2012	9.78	55.14	823.84	814.06

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0613-S1	12/5/2006	5.87	---	822.03	816.16
MW-0613-S1	3/8/2007	6.72	25.36	822.03	815.31
MW-0613-S1	1/16/2008	7.40	25.50	822.03	814.63
MW-0613-S1	11/11/2008	10.57	25.39	822.03	811.46
MW-0613-S1	2/17/2009	8.53	---	822.03	813.50
MW-0613-S1	6/12/2009	7.61	---	822.03	814.42
MW-0613-S1	4/13/2010	7.40	25.40	822.03	814.63
MW-0613-S1	9/5/2010	9.85	25.40	822.03	812.18
MW-0613-S1	4/20/2011	6.79	25.58	822.03	815.24
MW-0613-S1	9/27/2011	7.84	25.58	822.03	814.19
MW-0613-S1	3/29/2012	7.53	25.34	822.03	814.50
MW-0614-B1	12/5/2006	9.13	---	826.94	817.81
MW-0614-B1	3/8/2007	10.41	89.69	826.94	816.53
MW-0614-B1	1/16/2008	13.06	89.75	826.94	813.88
MW-0614-B1	11/11/2008	18.92	89.62	826.94	808.02
MW-0614-B1	2/17/2009	15.55	---	826.94	811.39
MW-0614-B1	6/12/2009	13.69	---	826.94	813.25
MW-0614-B1	4/13/2010	12.68	89.75	826.94	814.26
MW-0614-B1	9/5/2010	17.66	90.20	826.94	809.28
MW-0614-B1	4/20/2011	13.10	89.60	826.94	813.84
MW-0614-B1	9/27/2011	15.31	89.90	826.94	811.63
MW-0614-S2	12/5/2006	9.05	---	826.81	817.76
MW-0614-S2	3/8/2007	10.33	57.68	826.81	816.48
MW-0614-S2	1/16/2008	13.00	57.80	826.81	813.81
MW-0614-S2	11/11/2008	18.81	57.55	826.81	808.00
MW-0614-S2	2/17/2009	15.45	---	826.81	811.36
MW-0614-S2	6/12/2009	13.58	---	826.81	813.23
MW-0614-S2	4/13/2010	12.58	57.80	826.81	814.23
MW-0614-S2	9/5/2010	17.57	58.05	826.81	809.24
MW-0614-S2	4/20/2011	12.97	57.65	826.81	813.84
MW-0614-S2	9/27/2011	15.21	57.90	826.81	811.60
MW-0614-S2	3/29/2012	12.84	57.85	826.81	813.97
MW-0615-B1	12/5/2006	12.12	---	824.74	812.62
MW-0615-B1	3/8/2007	13.37	78.28	824.74	811.37
MW-0615-B1	1/16/2008	13.84	78.45	824.74	810.90
MW-0615-B1	11/11/2008	18.16	78.19	824.74	806.58
MW-0615-B1	2/17/2009	14.75	---	824.74	809.99
MW-0615-B1	6/12/2009	14.12	---	824.74	810.62
MW-0615-B1	4/13/2010	13.53	78.36	824.74	811.21
MW-0615-B1	9/5/2010	17.05	78.35	824.74	807.69
MW-0615-B1	4/20/2011	14.05	78.26	824.74	810.69
MW-0615-B1	9/27/2011	15.19	78.45	824.74	809.55
MW-0616-B1	12/5/2006	4.58	110.55	822.3	817.72
MW-0616-B1	3/8/2007	5.88	110.55	822.3	816.42
MW-0616-B1	1/16/2008	8.60	110.55	822.3	813.70
MW-0616-B1	11/11/2008	14.52	110.51	822.3	807.78
MW-0616-B1	2/17/2009	11.02	---	822.3	811.28
MW-0616-B1	6/12/2009	9.18	---	822.3	813.12
MW-0616-B1	4/13/2010	8.23	---	822.3	814.07
MW-0616-B1	9/5/2010	13.10	---	822.3	809.20
MW-0616-B1	4/20/2011	8.51	--	822.3	813.79
MW-0616-B1	9/27/2011	10.76	110.80	822.3	811.54
MW-0616-S1	12/5/2006	6.58	---	822.06	815.48
MW-0616-S1	3/8/2007	7.11	24.36	822.06	814.95
MW-0616-S1	1/16/2008	7.47	24.50	822.06	814.59
MW-0616-S1	11/11/2008	9.84	24.25	822.06	812.22
MW-0616-S1	2/17/2009	8.31	---	822.06	813.75
MW-0616-S1	6/12/2009	7.53	---	822.06	814.53
MW-0616-S1	4/13/2010	7.49	24.30	822.06	814.57
MW-0616-S1	9/5/2010	9.28	24.25	822.06	812.78
MW-0616-S1	4/20/2011	6.39	24.22	822.06	815.67
MW-0616-S1	9/27/2011	7.53	24.40	822.06	814.53

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0616-S1	3/29/2012	7.68	24.53	822.06	814.38
MW-0617-B1	3/8/2007	10.02	---	826.63	816.61
MW-0617-B1	1/16/2008	12.58	---	826.63	814.05
MW-0617-B1	11/11/2008	18.49	---	826.63	808.14
MW-0617-B1	2/17/2009	15.08	---	826.63	811.55
MW-0617-B1	6/12/2009	13.25	---	826.63	813.38
MW-0617-S1	3/8/2007	11.18	29.36	826.47	815.29
MW-0617-S1	1/16/2008	11.90	29.50	826.47	814.57
MW-0617-S1	11/11/2008	14.87	29.40	826.47	811.60
MW-0617-S1	2/17/2009	13.07	---	826.47	813.40
MW-0617-S1	6/12/2009	12.03	---	826.47	814.44
MW-0617-S2	3/8/2007	10.21	63.37	826.66	816.45
MW-0617-S2	1/16/2008	12.80	63.15	826.66	813.86
MW-0617-S2	11/11/2008	18.68	63.20	826.66	807.98
MW-0617-S2	2/17/2009	15.33	---	826.66	811.33
MW-0617-S2	6/12/2009	13.44	---	826.66	813.22
MW-0618-S1	12/5/2006	8.13	---	824.84	816.71
MW-0618-S1	3/8/2007	9.08	27.00	824.84	815.76
MW-0618-S1	1/16/2008	9.72	27.12	824.84	815.12
MW-0618-S1	11/11/2008	13.07	27.05	824.84	811.77
MW-0618-S1	2/17/2009	11.09	---	824.84	813.75
MW-0618-S1	6/12/2009	9.94	---	824.84	814.90
MW-0618-S1	4/13/2010	9.73	27.31	824.84	815.11
MW-0618-S1	9/5/2010	12.32	27.05	824.84	812.52
MW-0618-S1	4/20/2011	9.13	26.99	824.84	815.71
MW-0618-S1	9/27/2011	10.28	27.20	824.84	814.56
MW-0618-S1	3/29/2012	10.06	27.19	824.84	814.78
MW-0619-S1	12/5/2006	10.13	---	827.46	817.33
MW-0619-S1	3/8/2007	11.12	26.07	827.46	816.34
MW-0619-S1	1/16/2008	11.88	26.20	827.46	815.58
MW-0619-S1	11/11/2008	15.29	26.10	827.46	812.17
MW-0619-S1	2/17/2009	13.51	---	827.46	813.95
MW-0619-S1	6/12/2009	12.03	---	827.46	815.43
MW-0620-S1	12/5/2006	9.94	---	827.39	817.45
MW-0620-S1	3/8/2007	10.97	18.36	827.39	816.42
MW-0620-S1	1/16/2008	11.78	18.46	827.39	815.61
MW-0620-S1	11/11/2008	15.15	18.45	827.39	812.24
MW-0620-S1	2/17/2009	13.41	---	827.39	813.98
MW-0620-S1	6/12/2009	11.89	---	827.39	815.50
MW-0620-S1	4/13/2010	11.60	18.39	827.39	815.79
MW-0620-S1	9/5/2010	13.85	18.40	827.39	813.54
MW-0620-S1	4/20/2011	11.07	18.34	827.39	816.32
MW-0620-S1	9/27/2011	12.19	18.55	827.39	815.20
MW-0620-S1	3/29/2012	11.95	18.50	827.39	815.44
MW-0621-S1	12/5/2006	9.53	---	826.72	817.19
MW-0621-S1	3/8/2007	10.49	24.55	826.72	816.23
MW-0621-S1	1/16/2008	11.19	24.66	826.72	815.53
MW-0621-S1	11/11/2008	14.62	24.58	826.72	812.10
MW-0621-S1	2/17/2009	12.84	---	826.72	813.88
MW-0621-S1	6/12/2009	11.39	---	826.72	815.33
MW-0621-S1	4/13/2010	11.15	24.63	826.72	815.57
MW-0621-S1	9/5/2010	13.86	24.62	826.72	812.86
MW-0621-S1	4/20/2011	10.68	24.54	826.72	816.04
MW-0621-S1	9/27/2011	11.81	24.78	826.72	814.91
MW-0621-S1	3/29/2012	11.47	24.71	826.72	815.25
MW-0622-S1	12/5/2006	11.03	---	828.57	817.54
MW-0622-S1	3/8/2007	12.07	23.78	828.57	816.50
MW-0622-S1	1/16/2008	12.90	23.85	828.57	815.67
MW-0622-S1	11/11/2008	16.27	23.82	828.57	812.30

Table 1. Monitoring Well Groundwater Elevation Data, Former GM Delco Plant 5, Kokomo, Indiana.

Well ID	Date	Depth to Water (feet)	Total Depth (feet)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-0622-S1	2/17/2009	14.59	---	828.57	813.98
MW-0622-S1	6/12/2009	12.98	---	828.57	815.59
MW-0622-S2	12/5/2006	10.54	---	828.66	818.12
MW-0622-S2	3/8/2007	11.81	65.94	828.66	816.85
MW-0622-S2	1/16/2008	14.01	66.05	828.66	814.65
MW-0622-S2	11/11/2008	20.76	65.95	828.66	807.90
MW-0622-S2	2/17/2009	17.31	---	828.66	811.35
MW-0622-S2	6/12/2009	15.32	---	828.66	813.34
MW-0622-S2	4/13/2010	14.28	66.00	828.66	814.38
MW-0622-S2	9/5/2010	19.50	66.05	828.66	809.16
MW-0622-S2	4/20/2011	14.82	65.89	828.66	813.84
MW-0622-S2	9/27/2011	17.13	66.15	828.66	811.53
MW-0622-S2	3/29/2012	14.40	66.09	828.66	814.26
MW-0623-S1	3/8/2007	12.37	25.04	829.09	816.72
MW-0623-S1	1/16/2008	13.17	25.17	829.09	815.92
MW-0623-S1	11/11/2008	16.58	25.18	829.09	812.51
MW-0623-S1	2/17/2009	14.96	---	829.09	814.13
MW-0623-S1	6/12/2009	13.37	---	829.09	815.72
MW-0623-S1	4/13/2010	13.00	25.10	829.09	816.09
MW-0623-S1	9/5/2010	15.79	25.10	829.09	813.30
MW-0623-S1	4/20/2011	12.62	25.00	829.09	816.47
MW-0623-S1	9/27/2011	13.80	25.26	829.09	815.29
MW-0623-S1	3/29/2012	13.32	25.20	829.09	815.77
MW-0702-B1	1/16/2008	10.65	72.70	825.03	814.38
MW-0702-B1	11/11/2008	16.57	72.46	825.03	808.46
MW-0702-B1	2/17/2009	13.19	---	825.03	811.84
MW-0702-B1	6/12/2009	11.30	---	825.03	813.73
MW-0702-B1	4/13/2010	10.29	72.60	825.03	814.74
MW-0702-B1	9/5/2010	15.27	72.60	825.03	809.76
MW-0702-B1	4/20/2011	10.72	72.47	825.03	814.31
MW-0702-B1	9/27/2011	12.89	72.73	825.03	812.14
MW-0703-B1	1/16/2008	13.30	111.32	823.609	810.31
MW-0703-B1	11/11/2008	17.01	111.32	823.609	806.60
MW-0703-B1	2/17/2009	13.66	---	823.609	809.95
MW-0703-B1	6/12/2009	13.21	---	823.609	810.40
MW-0703-B1	4/13/2010	12.45	---	823.609	811.16
MW-0703-B1	9/5/2010	16.10	---	823.609	807.51
MW-0703-B1	4/20/2011	12.73	--	823.609	810.88
MW-0703-B1	9/27/2011	14.12	111.75	823.609	809.49
MW-0704-S1	1/16/2008	9.84	29.31	825.376	815.54
MW-0704-S1	11/11/2008	13.15	29.20	825.376	812.22
MW-0704-S1	2/17/2009	11.27	---	825.376	814.11
MW-0704-S1	6/12/2009	10.04	---	825.376	815.34
MW-0704-S1	4/13/2010	9.83	29.23	825.376	815.55
MW-0704-S1	9/5/2010	12.38	29.20	825.376	813.00
MW-0704-S1	4/20/2011	9.26	29.17	825.376	816.12
MW-0704-S1	9/27/2011	10.39	29.39	825.376	814.99
MW-0704-S1	3/29/2012	10.14	29.35	825.376	815.24
MW-0705-S1	1/16/2008	11.20	25.78	826.158	814.96
MW-0705-S1	11/11/2008	13.71	25.68	826.158	812.45
MW-0705-S1	2/17/2009	11.86	---	826.158	814.30
MW-0705-S1	6/12/2009	10.79	---	826.158	815.37

Notes:

AMSL - Above mean sea level.

--- Reading not collected

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Table 2. Groundwater Analytical Data Summary Screened Against Drinking Water Criteria, Former GM Delco Plant 5, Kokomo, Indiana.

Chemical			1,1-Dichloroethane	1,1-Dichloroethene	Benzene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
Location	Date	Sample ID							
MW-0101-S1U	06/22/01	MW-1M-06/22/2001-N-LB	< 50 U	< 50 U		800	< 50 U	3100	67
MW-0101-S1U	11/15/04	MW-1M (111504)-RE	< 5.0 U	14	< 5.0 U	1300	73	11000	150
MW-0101-S1U	11/15/04	FD-1 (111504)-RE	< 5.0 U	13	< 5.0 U	1600	69	13000	140
MW-0101-S1U	03/24/06	MW-0101-S1U (032406)	14	7	2.4 J	1200	68	9400	67
MW-0101-S1U	11/10/06	FD-1 (111006)-BDS	12	9.3	2.3 J	1100	72	7500	100
MW-0101-S1U	11/10/06	MW-0101-S1U (111006)	12	9.4	2.3 J	1100	73	7700	100
MW-0101-S1U	04/19/12	FD-1 (041912)-TP	< 5.0 U	20.3	< 5.0 U	748	57.7	13500	69
MW-0101-S1U	04/19/12	FD-2 (041912)-BC	< 5.0 U	8.1	< 5.0 U	712	63.4	4550	83
MW-0101-S1U	04/19/12	MW-0101-S1U (041912)-PDB	< 5.0 U	20.4	< 5.0 U	688	56.6	13500	66.3
MW-0101-S1U	04/19/12	MW-0101-S1U (041912)-LF	< 5.0 U	8.5	< 5.0 U	673	62	5390	77.1
MW-0102-S1U	06/22/01	MW-2 DUP-06/22/2001-N-LB	< 50 U	< 50 U		360	< 50 U	410	< 20 U
MW-0102-S1U	06/22/01	MW-2-06/22/2001-N-LB	< 50 U	< 50 U		340	< 50 U	370	< 20 U
MW-0102-S1U	11/15/04	MW-2 (111504)-RE	< 5.0 U	< 5.0 U	< 5.0 U	770	74	4600	37
MW-0102-S1U	10/20/05	MW-2-1U (102005)	< 5.0 U	5.1	< 5.0 U	770	68	3800	21
MW-0102-S1U	03/22/06	MW-0102-S1U (032206)	< 5.0 U	4.5 J	< 5.0 U	1000	88	4800	21
MW-0102-S1U	04/19/12	MW-0102-S1U (041912)-PDB	< 5.0 U	5.9	< 5.0 U	948	108	3970	35.1
MW-0102-S1U	04/19/12	MW-0102-S1U (041912)-LF	< 5.0 U	< 5.0 U	< 5.0 U	563	85.9	2380	21.2
MW-0506-S2	10/19/05	MW-0506-3L (101905)	< 5.0 U	< 5.0 U	< 5.0 U	470	44	630	< 2.0 U
MW-0506-S2	01/03/06	MW-0506-2L (010306)	< 5.0 U	< 5.0 U	< 5.0 U	540	48	650	< 2.0 U
MW-0506-S2	03/27/06	MW-0506-S2 (032706)	< 5.0 U	< 5.0 U	< 5.0 U	620	50	670	< 2.0 U
MW-0506-S2	06/24/09	MW-0506-S2 (062409)	< 5 U	< 5 U	< 5 U	634	80.5	445	3.1
MW-0506-S2	04/19/12	MW-0506-S2 (041912)-PDB	< 5.0 U	< 5.0 U	< 5.0 U	520	67.1	583	< 2.0 U
MW-0506-S2	04/19/12	MW-0506-S2 (041912)-LF	< 5.0 U	< 5.0 U	< 5.0 U	565	68.5	585	< 2.0 U
MW-0606-S2	03/23/06	MW-0606-S2 (032306)	< 5.0 U	< 5.0 U	< 5.0 U	1.8 J	< 5.0 U	2.8 J	< 2.0 U
MW-0606-S2	11/06/06	MW-0606-S2 (110606)	< 5.0 U	< 5.0 U	< 5.0 U	< 7.2	< 5.0 U	2.3 J	< 2.0 U
MW-0606-S2	06/26/09	MW-0606-S2 (062609)	< 5 U	< 5 U	< 5 U	245	50.9	390	< 2 U
MW-0606-S2	04/19/12	MW-0606-S2 (041912)-PDB	< 5.0 U	< 5.0 U	< 5.0 U	194	47.5	729	< 2.0 U

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Table 2. Groundwater Analytical Data Summary Screened Against Drinking Water Criteria, Former GM Delco Plant 5, Kokomo, Indiana.

Location	Date	Chemical	Sample ID	1,1-Dichloroethane	1,1-Dichloroethene	Benzene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
MW-0609-S2	11/10/06	MW-0609-S2 (111006)		< 5.0 U	< 5.0 U	< 5.0 U	73	10	< 5.0 J	4.1
MW-0609-S2	11/12/08	MW-0609-S2 (111208)		< 5.0 U	< 5.0 U	< 5.0 U	22.2	< 5.0 U	< 5.0 U	< 2.0 U
MW-0609-S2	05/05/10	MW-0609-S2 (050510)		< 5 U	< 5 U	< 5 U	127	17	< 5 U	4.1
MW-0609-S2	05/06/10	MW-0609-S2 (050610)-LF		< 5 U	< 5 U	< 5 U	102	13	< 5 U	3.5
MW-0609-S2	10/28/10	MW-0609-S2(102810)		< 5.0 U	< 5.0 U	< 5.0 U	20.3	< 5.0 U	< 5.0 U	< 2.0 U
MW-0609-S2	05/13/11	MW-0609-S2(051311)		< 4.0 U	< 4.0 U	< 4.0 U	130	17	< 4.0 U	4.8
MW-0609-S2	10/18/11	MW-0609-S2(101811)		< 5.0 U	< 5.0 U	< 5.0 U	24.1	< 5.0 U	< 5.0 U	< 2.0 U
MW-0609-S2	04/20/12	MW-0609-S2_20120420		< 5.0 U	< 5.0 U	< 5.0 U	175	21.1	< 5.0 U	3.2
MW-0612-S1	11/09/06	MW-0612-S1 (110906)		< 5.0 U	< 5.0 U	< 5.0 U	130	43	3300	2.4
MW-0612-S1	03/07/07	FD-1-MG (030707)		< 5.0 U	< 5.0 U	< 5.0 U	132	38.6	3760	3.1
MW-0612-S1	03/07/07	MW-0612-S1 (030707)		< 5.0 U	< 5.0 U	< 5.0 U	161	38.9	3950	< 2.0 U
MW-0612-S1	06/25/09	MW-0612-S1 (062509)		< 50 U	< 50 U	< 50 U	207	< 50 U	4370	< 20 U
MW-0612-S1	04/19/12	MW-0612-S1 (041912)-PDB		< 5.0 U	< 5.0 U	< 5.0 U	223	44.9	4750	15.1
MW-0612-S2	03/07/07	MW-0612-S2 (030707)		< 5.0 U	< 5.0 U	< 5.0 U	827	160	1320	< 2.0 U
MW-0612-S2	06/25/09	MW-0612-S2 (062509)-PDB		< 5 U	< 5 U	< 5 U	1360	183	268	< 2 U
MW-0612-S2	06/25/09	MW-0612-S2 (062509)-LF		< 5 U	< 5 U	< 5 U	1440	199	353	< 2 U
MW-0612-S2	04/19/12	MW-0612-S2 (041912)-PDB		< 5.0 U	< 5.0 U	< 5.0 U	678	140	625	< 2.0 U
MW-0612-S2	04/19/12	MW-0612-S2 (041912)-LF		< 5.0 U	< 5.0 U	< 5.0 U	663	148	747	< 2.0 U
MW-0620-S1	11/14/08	MW-0620-S1 (111408)		< 5.0 U	< 5.0 U	< 5.0 U	75	10.4	5940	< 2.0 U
MW-0620-S1	04/19/12	MW-0620-S1 (041912)-PDB		< 5.0 U	< 5.0 U	< 5.0 U	86.9	< 5.0 U	4830	< 2.0 U
MW-0622-S2	11/13/08	MW-0622-S2 (111308)		< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
MW-0622-S2	05/05/10	MW-0622-S2 (050510)		< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 2 U
MW-0622-S2	10/28/10	MW-0622-S2(102810)		< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
MW-0622-S2	05/13/11	MW-0622-S2(051311)		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-0622-S2	10/18/11	MW-0622-S2(101811)		< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
MW-0622-S2	04/19/12	MW-0622-S2 (041912)-PDB		< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
Maximum Contaminant Level				NS	7	5	70	100	5	2
IDEM RISC Residential Default Closure Level				24	NS	NS	NS	NS	NS	NS

Note:

The data are screened against Drinking Water Screening Criteria (Maximum Contaminant Levels (MCLs) or IDEM RISC Residential Default Closure Levels, where MCLs are not established.

Concentrations highlighted gray exceed the screening criteria

IDEM RISC - Indiana Department of Environmental Management Risk Integrated System of Closure

Results are reported in ug/L

Table 3. Groundwater Analytical Data Summary Screened Against Groundwater Vapor Intrusion Criteria, Former GM Delco Plant 5, Kokomo, Indiana.

Plume Designation	Location	Date	Chemical Sample ID	1,1-Dichloroethene	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
Inside Plume	MW-0606-S1	03/23/06	MW-0606-S1 (032306)	< 5.0 U	230	< 5.0 U	42	970	< 2.0 U
	MW-0606-S1	11/06/06	MW-0606-S1 (110606)	< 5.0 U	210	< 5.0 U	43	770	1.0 J
	MW-0609-S1	03/23/06	MW-0609-S1 (032306)	< 5.0 U	61	< 5.0 U	9.7	260	< 2.0 U
	MW-0609-S1	11/09/06	MW-0609-S1 (110906)	< 5.0 U	55	< 5.0 U	9	220	< 2.0 U
	MW-0609-S1	06/26/09	FD-1-PS (062609)	< 5 U	225	< 5 U	25.4	69.4	3.7
	MW-0609-S1	06/26/09	MW-0609-S1 (062609)	< 5 U	226	< 5 U	26.1	69.9	3.6
	MW-0612-S1	11/09/06	MW-0612-S1 (110906)	< 5.0 U	130	< 5.0 U	43	3,300	2.4
	MW-0612-S1	03/07/07	FD-1-MG (030707)	< 5.0 U	132	< 5.0 U	38.6	3,760	3.1
	MW-0612-S1	03/07/07	MW-0612-S1 (030707)	< 5.0 U	161	< 5.0 U	38.9	3,950	< 2.0 U
	MW-0612-S1	06/25/09	MW-0612-S1 (062509)	< 50 U	207	< 50 U	< 50 U	4,370	< 20 U
	MW-0612-S1	04/19/12	MW-0612-S1 (041912)-PDB	< 5.0 U	223	< 5.0 U	44.9	4,750	15.1
	MW-0704-S1	11/13/08	MW-0704-S1 (111308)	< 5.0 U	408	< 5.0 U	71.8	1370	< 2.0 U
	MW-0704-S1	06/25/09	MW-0704-S1 (062509)	< 5 U	571	< 5 U	103	1200	5.6
	MW-0705-S1	11/13/08	MW-0705-S1 (111308)	< 5.0 U	37.2	< 5.0 U	9.4	187	< 2.0 U
	MW-0705-S1	06/26/09	MW-0705-S1 (062609)-PDB	< 5 U	34	< 5 U	9	86.3	4.8
	MW-0705-S1	06/26/09	MW-0705-S1 (062609)-LF	< 5 U	50	< 5 U	14.9	178	5.1
Outside Plume	MW-0602-S1	03/24/06	MW-0602-S1 (032406)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0602-S1	11/07/06	MW-0602-S1 (110706)	< 5.0 U	< 5.0 J	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0603-S1	03/24/06	MW-0603-S1 (032406)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0603-S1	11/08/06	MW-0603-S1 (110806)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0603-S1	06/25/09	MW-0603-S1 (062509)	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 2 U
	MW-0603-S1	05/05/10	MW-0603-S1 (050510)	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 2 U
	MW-0603-S1	10/28/10	MW-0603-S1(102810)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0603-S1	05/13/11	MW-0603-S1(051311)	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
	MW-0603-S1	10/18/11	MW-0603-S1(101811)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0607-S1	03/24/06	MW-0607-S1 (032406)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0607-S1	11/06/06	MW-0607-S1 (110606)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0607-S1	06/25/09	MW-0607-S1 (062509)	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 2 U
	MW-0607-S1	05/05/10	MW-0607-S1 (050510)	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 2 U
	MW-0607-S1	05/06/10	MW-0607-S1 (050610)LF	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 2 U
	MW-0607-S1	10/28/10	MW-0607-S1(102810)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0607-S1	05/13/11	MW-0607-S1(051311)	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
	MW-0607-S1	10/18/11	MW-0607-S1(101811)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U

Table 3. Groundwater Analytical Data Summary Screened Against Groundwater Vapor Intrusion Criteria, Former GM Delco Plant 5, Kokomo, Indiana.

Plume Designation	Location	Date	Chemical Sample ID	1,1-Dichloroethene	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
Outside Plume	MW-0610-S1	11/10/06	MW-0610-S1 (111006)	< 5.0 U	40	< 5.0 U	4.2 J	< 5.0 J	1.9 J
	MW-0610-S1	11/12/08	MW-0610-S1 (111208)	< 5.0 U	19.1	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0610-S1	05/05/10	MW-0610-S1 (050510)	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 2 U
	MW-0610-S1	10/28/10	MW-0610-S1(102810)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0610-S1	05/13/11	MW-0610-S1(051311)	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
	MW-0610-S1	10/18/11	MW-0610-S1(101811)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0611-S1	11/13/06	MW-0611-S1 (111306)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0611-S1	11/13/08	MW-0611-S1 (111308)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0613-S1	11/10/06	MW-0613-S1 (111006)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0613-S1	11/12/08	MW-0613-S1 (111208)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0613-S1	05/05/10	MW-0613-S1 (050510)	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 2 U
	MW-0613-S1	10/28/10	MW-0613-S1(102810)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0613-S1	05/13/11	MW-0613-S1(051311)	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
	MW-0613-S1	10/18/11	MW-0613-S1(101811)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0616-S1	11/13/06	MW-0616-S1 (111306)	2.1 J	880	< 5.0 U	54	5.7	3.7
	MW-0616-S1	11/14/08	MW-0616-S1 (111408)	< 5.0 U	226	< 5.0 U	18.6	< 5.0 U	10.3
	MW-0617-S1	03/07/07	MW-0617-S1 (030707)	< 5.0 U	< 5.0 U	48.1	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0617-S1	11/12/08	MW-0617-S1 (111208)	< 5.0 U	< 5.0 U	18.3	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0617-S1	12/29/08	MW-0617-S1 (122908)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0618-S1	11/13/06	MW-0618-S1 (111306)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
	MW-0618-S1	11/12/08	MW-0618-S1 (111208)	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 2.0 U
Inside Plume	Commercial/Industrial			78,300	59,500	33,000	73,800	2,190	919
	Residential			55,900	42,500	23,800	52,700	1,570	547
Outside Plume	Commercial/Industrial			52,400	30,100	21,000	41,900	1,300	623
	Residential			37,500	21,500	15,000	29,900	930	371

Note:

Results are reported in ug/L

The data are screened against site specific Groundwater Vapor Intrusion Screening Criteria and these criteria are broken down into four groups:

- Residential values for groundwater off-site inside the plume
- Residential values for groundwater off-site outside the plume
- Commercial/industrial values for groundwater off-site inside the plume
- Commercial/industrial values for groundwater off-site outside the plume

Results exceeding the residential standards are boldfaced

Results exceeding the comercial/industrial standards are bold and shaded gray

LF - Low Flow Sampling Technique

PDB - Passive Diffusion Bag Sampling Technique

Table 4. Summary of Soil Gas Sampling Analytical Results, Former GM Delco Plant 5, Kokomo, Indiana

Sample Location	Screen Interval (ft)	Date Collected	Concentration (µg/m3) ^a					
			1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	VC
SGP-0701	5.5 - 6.0	8/13/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		9/17/2007	NS	NS	NS	NS	NS	
		4/20/2012	NS	NS	NS	NS	NS	
SGP-0702	5 - 6	8/13/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		9/17/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		4/20/2012	< 3.0	< 3.0	< 3.0	< 5.2	< 4.1	< 1.9
SGP-0703	5 - 6	8/13/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		9/17/2007	NS	NS	NS	NS	NS	NS
		4/20/2012	< 3.1	< 3.1	< 3.1	38	< 4.2	< 2.0
SGP-0704	6 - 7	8/13/2007	< 4.8 [<lt; 4.4]<="" td=""><td>21.4 J [<lt; 4.4]<="" td=""><td>< 4.8 [<lt; 4.4]<="" td=""><td>NA</td><td>87.6 J [43.2 J]</td><td>< 3.1 [<lt; 2.9]<="" td=""></lt;></td></lt;></td></lt;></td></lt;>	21.4 J [<lt; 4.4]<="" td=""><td>< 4.8 [<lt; 4.4]<="" td=""><td>NA</td><td>87.6 J [43.2 J]</td><td>< 3.1 [<lt; 2.9]<="" td=""></lt;></td></lt;></td></lt;>	< 4.8 [<lt; 4.4]<="" td=""><td>NA</td><td>87.6 J [43.2 J]</td><td>< 3.1 [<lt; 2.9]<="" td=""></lt;></td></lt;>	NA	87.6 J [43.2 J]	< 3.1 [<lt; 2.9]<="" td=""></lt;>
		9/17/2007	< 4.4 [<lt; 4.4]<="" td=""><td>< 4.4 [<lt; 4.4]<="" td=""><td>< 4.4 [<lt; 4.4]<="" td=""><td>NA</td><td>34.5 [37.2]</td><td>< 2.9 [<lt; 2.9]<="" td=""></lt;></td></lt;></td></lt;></td></lt;>	< 4.4 [<lt; 4.4]<="" td=""><td>< 4.4 [<lt; 4.4]<="" td=""><td>NA</td><td>34.5 [37.2]</td><td>< 2.9 [<lt; 2.9]<="" td=""></lt;></td></lt;></td></lt;>	< 4.4 [<lt; 4.4]<="" td=""><td>NA</td><td>34.5 [37.2]</td><td>< 2.9 [<lt; 2.9]<="" td=""></lt;></td></lt;>	NA	34.5 [37.2]	< 2.9 [<lt; 2.9]<="" td=""></lt;>
		4/20/2012	< 3.0 [<lt; 3.0]<="" td=""><td>< 3.0 [<lt; 3.0]<="" td=""><td>< 3.0 [<lt; 3.0]<="" td=""><td>210 [210]</td><td>18 [18]</td><td>< 1.9 [<lt; 1.9]<="" td=""></lt;></td></lt;></td></lt;></td></lt;>	< 3.0 [<lt; 3.0]<="" td=""><td>< 3.0 [<lt; 3.0]<="" td=""><td>210 [210]</td><td>18 [18]</td><td>< 1.9 [<lt; 1.9]<="" td=""></lt;></td></lt;></td></lt;>	< 3.0 [<lt; 3.0]<="" td=""><td>210 [210]</td><td>18 [18]</td><td>< 1.9 [<lt; 1.9]<="" td=""></lt;></td></lt;>	210 [210]	18 [18]	< 1.9 [<lt; 1.9]<="" td=""></lt;>
SGP-0705	5 - 6	8/13/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		9/17/2007	< 4.0	< 4.0	< 4.0	NA	< 5.5	< 2.6
		4/20/2012	< 3.1	< 3.1	< 3.1	< 5.4	< 4.2	< 2.0
SGP-0706	5 - 6	9/17/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		4/20/2012	NS	NS	NS	NS	NS	NS
SGP-0707	5 - 6	9/17/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		4/20/2012	NS	NS	NS	NS	NS	NS
SGP-0708	5 - 6	9/17/2007	< 4.8	< 4.8	< 4.8	NA	44.3	< 3.1
		4/20/2012	< 3.1	< 3.1	< 3.1	1200	88	< 2.0
SGP-0709	5 - 6	9/17/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		4/20/2012	< 3.1	< 3.1	< 3.1	< 5.4	< 4.2	< 2.0
SGP-0710	5 - 6	9/17/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		4/20/2012	< 3.2	< 3.2	< 3.2	14	< 4.3	< 2.0
SGP-0711	5 - 6	9/17/2007	< 4.4	< 4.4	< 4.4	NA	< 5.5	< 2.9
		4/20/2012	< 3.1	< 3.1	< 3.1	< 5.4	< 4.2	< 2.0
IDEM RCG Residential Soil Gas Screening Level ^b			21,000	NL	6,300	410	210	160
CMP Residential Soil Gas Vapor Intrusion Screening Criteria ^c			830	NL	630	417	21	16
Proposed Revised Residential Soil Gas Screening Level ^{d, e, f}			21,000 ^{d, e}	NL	6300 ^d	4200 ^f	210 ^d	160 ^d

ARCADIS

Table 4. Summary of Soil Gas Sampling Analytical Results, Former GM Delco Plant 5, Kokomo, Indiana

Notes:

- a Analytical Method: Modified EPA Method TO-15 GC/MS; Sampling Method: 1-Liter Summa Canister
- b Residential Soil Gas Screening Level derived using an attenuation factor of 0.01 for screen intervals greater than 5 ft
- c Corrective Measures Plan (ARCADIS, 2012) Appendix B describes derivation of screening criteria (Table B-3) using an attenuation factor of 0.1
- d Revised screening level based on IDEM 2012 residential screening levels for indoor air and default attenuation factor of 0.01
- e IDEM now using USEPA Regional Screening Level (RSL) as basis of screening levels which differs from 2011 Health Protective Level (HPL)
- f Revised screening level based on updated RSL, IDEM attenuation factor of 0.01

Acronyms, Abbreviations:

ug/m³: micrograms per cubic meter

ft: feet

CMP: Corrective Measures Plan

DCE: Dichloroethene

IDEM: Indiana Department of Environmental Management

NA: Not Analyzed

NS: Not Sampled

NL: Not Listed

PCE: Tetrachloroethene

RCG: 2012 Remediation Closure Guide

TCE: Trichloroethene

VC: Vinyl Chloride

BOLD Exceeds IDEM Residential Soil Gas Screening Level

Italics Exceeds CMP Residential Soil Gas Vapor Intrusion Screening Criteria

CITY: SYRACUSE DIV: GROUP: Env-141 DB: AMS GMS LD: AMS PM (Regd) LYRONI=OFF=REF
G:\ENVCADSYRACUSE\ACT\1000894\031\00007\CA750\DWG\00894\031.dwg LAYOUT: 1 SAVED: 12/28/2011 4:07 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: C:\D2B-PDF-CONV PLOTSTYLETABLE: PLOTFULLCTB PLOTTED: 12/28/2011 4:52 PM BY: STOWELL, GARY

XREFS: 00894XLD
IMAGES: PROJECTNAME: -----

SAMPLE LOCATION	MW-0609-S2	
	5/5/2010	SAMPLE DATE
	mg/l	UNITS
ANALYTICAL PARAMETER	PDB	SAMPLE INTERVAL (FEET BELOW GROUND SURFACE)
	Groundwater	MATRIX
	VOC	
	1,1-Dichloroethene	< 0.005 U QUALIFIER
	cis-1,2-Dichloroethene	0.127 RESULTS
	trans-1,2-Dichloroethene	0.017
	Trichloroethene	< 0.005 U
	Vinyl chloride	0.0041 RESULTS EXCEEDING SCREENING CRITERIA ARE SHOWN IN GREEN

DATA VALIDATION QUALIFIERS

- J – ESTIMATED VALUE
- U – ANALYTE/COMPOUND WAS ANALYZED FOR BUT NOT DETECTED
- UJ – EXCEEDS INSERT SCREENING CRITERIA

DATABOX INFORMATION:

WATER ANALYTICAL RESULTS (mg/L)

DATABOXES INCLUDE CONSTITUENTS THAT WERE DETECTED ABOVE THE FOLLOWING SCREENING CRITERIA:

GROUNDWATER – STATE OR FEDERAL MCLS OR REGION 9 TAP WATER INGESTION VALUES AT A TARGET CANCER RISK OF 10⁻⁵.

CONCENTRATIONS EXCEEDING THE CRITERIA WERE IDENTIFIED AS FOLLOWS:

- OFF–SITE WATER EXCEEDING ANY OF THE FOLLOWING CRITERIA: STATE OR FEDERAL MCLS OR REGION 9 TAP WATER INGESTION VALUES AT A TARGET CANCER RISK OF 10⁻⁵, CALCULATED CONSTRUCTION WORKER GROUNDWATER CONTACT CRITERIA AT A TARGET CANCER RISK OF 10⁻⁵, CALCULATED RESIDENTIAL NON–POTABLE USE (I.E., KIDDIE POOL) CRITERIA, AND RESIDENTIAL VOLATILIZATION TO INDOOR AIR CRITERIA AT A TARGET CANCER RISK OF 10⁻⁵.
- ON–SITE WATER EXCEEDING ANY OF THE FOLLOWING CRITERIA: STATE OR FEDERAL MCLS OR REGION 9 TAP WATER INGESTION VALUES AT A TARGET CANCER RISK OF 10⁻⁵, CALCULATED CONSTRUCTION WORKER GROUNDWATER CONTACT CRITERIA AT A TARGET CANCER RISK OF 10⁻⁵, AND INDUSTRIAL VOLATILIZATION TO INDOOR AIR CRITERIA AT A TARGET CANCER RISK OF 10⁻⁵.

LEGEND

- MW-0601-P1 MONITORING WELL SCREENED IN DISCONTINUOUS UNIT. P1 DENOTES SCREENED INTERVAL IS IN A PERCHED ZONE ABOVE UNIT S1. I2 DENOTES SCREENED INTERVAL IS A SAND UNIT BETWEEN UNITS S1 AND S2.
- MW-0603-S1 MONITORING WELL S2 SCREENED IN UNIT S1.
- MW-0603-S2 MONITORING WELL SCREENED IN UNIT S2.
- MW-0603-B1 MONITORING WELL SCREENED IN UNIT B1. UNIT B1 REFERS TO THE UPPER–MOST TRANSMISSIVE ZONE WITHIN THE LIMESTONE BEDROCK UNIT.
- MW-0615-B1a MONITORING WELL (B1A LOCATIONS ARE OPEN BEDROCK BOREHOLES TO A DEPTH OF APPROXIMATELY 150 FT BG CURRENTLY SEALED WITH FLUTE LINERS).
- SGP-0711 SOIL GAS MONITORING POINT.
- PROPERTY BOUNDARY.
- FORMER BUILDING OUTLINE.
- AOI 1 AREA OF INTEREST.

NOTE:

FOR WELL SYMBOLS:
"S" DENOTES CONTINUOUS SATURATED SAND UNIT
"B" DENOTES SATURATED BEDROCK UNIT
"P" DENOTES DISCONTINUOUS SATURATED SAND UNIT ABOVE UNIT S1
"I" DENOTES DISCONTINUOUS SATURATED SAND UNIT BETWEEN UNITS S1 AND S2
SUFFIX "U" DENOTES WELL SCREEN IN UPPER PORTION OF AQUIFER

RACER TRUST
FORMER GM DELCO PLANT 5
KOKOMO, INDIANA
CA 750 MONITORING REPORT - SECOND HALF 2011

LEGEND SHEET



DRAWING
1



MW-0622-S2					
	10/28/2010	5/13/2011	10/18/2011	4/19/2012	
	PDB	PDB	PDB	PDB	
	ug/L	ug/L	ug/L	ug/L	
1,1-Dichloroethane	< 5.0 U	< 1.0 U	< 5.0 U	< 5.0 U	
1,1-Dichloroethene	< 5.0 U	< 1.0 U	< 5.0 U	< 5.0 U	
Benzene	< 5.0 U	< 1.0 U	< 5.0 U	< 5.0 U	
cis-1,2-Dichloroethene	< 5.0 U	< 1.0 U	< 5.0 U	< 5.0 U	
trans-1,2-Dichloroethene	< 5.0 U	< 1.0 U	< 5.0 U	< 5.0 U	
Trichloroethene	< 5.0 U	< 1.0 U	< 5.0 U	< 5.0 U	
Vinyl chloride	< 2.0 U	< 1.0 U	< 2.0 U	< 2.0 U	

MW-0620-S1			
	11/21/2006	11/14/2008	4/19/2012
	Low-Flow	Low-Flow	PDB
	ug/L	ug/L	ug/L
1,1-Dichloroethane	< 5.0 U	< 5.0 U	< 5.0 U
1,1-Dichloroethene	< 5.0 U	< 5.0 U	< 5.0 U
Benzene	< 5.0 U	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	110	75.0	86.9
trans-1,2-Dichloroethene	11	10.4	< 5.0 U
Trichloroethene	5900	5940	4830
Vinyl chloride	< 2.0 U	< 2.0 U	< 2.0 U

MW-0101-S1U					
	11/15/2004	3/24/2006	11/10/2006	4/19/2012	4/19/2012
	Low-Flow	Low-Flow	Low-Flow	Low-Flow	PDB
	ug/L	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	< 5.0 U [$\leq$ 5.0 U]	14	12 [12]	< 5.0 U [$\leq$ 5.0 U]	< 5.0 U [$\leq$ 5.0 U]
1,1-Dichloroethene	13 [14]	7.0	9.3 [9.4]	8.1 [8.5]	20.3 [20.4]
Benzene	< 5.0 U [$\leq$ 5.0 U]	2.4 J	2.3 J [2.3 J]	< 5.0 U [$\leq$ 5.0 U]	< 5.0 U [$\leq$ 5.0 U]
cis-1,2-Dichloroethene	1300 [1600]	1200	1100 [1100]	673 [712]	688 [748]
trans-1,2-Dichloroethene	69 [73]	68	72 [73]	62.0 [63.4]	56.6 [57.7]
Vinyl chloride	140 [150]	67	100 [100]	77.1 [83.0]	66.3 [69.0]

MW-0506-S2					
	1/3/2006	1/3/2006	3/27/2006	6/24/2009	4/19/2012
	Low-Flow	Low-Flow	Low-Flow	Low-Flow	Low-Flow
	ug/L	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
1,1-Dichloroethene	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
Benzene	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	540	620	540	634	565
trans-1,2-Dichloroethene	48	50	48	50	68.5
Trichloroethene	650	670	650	670	585
Vinyl chloride	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U

MW-0102-S1U					
	11/15/2004	10/20/2005	3/22/2006	4/19/2012	4/19/2012
	Low-Flow	Low-Flow	Low-Flow	Low-Flow	PDB
	ug/L	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
1,1-Dichloroethene	< 5.0 U	5.1	4.5 J	< 5.0 U	5.9
Benzene	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	770	770	1000	563	948
trans-1,2-Dichloroethene	74	68	88	85.9	108
Trichloroethene	4600	3800	4800	2380	3970
Vinyl chloride	37	21	21	21.2	35.1

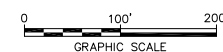
MW-0606-S2				
	3/23/2006	11/6/2006	6/26/2009	4/19/2012
	Low-Flow	Low-Flow	Low-Flow	PDB
	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
1,1-Dichloroethene	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
Benzene	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	1.8 J	< 7.2	245	194
trans-1,2-Dichloroethene	< 5.0 U	< 5.0 U	50.9	47.5
Trichloroethene	2.8 J	2.3 J	390	729
Vinyl chloride	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U

MW-0612-S1				
	11/9/2006	3/7/2007	6/25/2009	4/19/2012
	Low-Flow	Low-Flow	Low-Flow	Low-Flow
	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	< 5.0 U	< 5.0 U [$\leq$ 5.0 U]	< 5.0 U	< 5.0 U
1,1-Dichloroethene	< 5.0 U	< 5.0 U [$\leq$ 5.0 U]	< 5.0 U	< 5.0 U
Benzene	< 5.0 U	< 5.0 U [$\leq$ 5.0 U]	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	130	132 [161]	207	223
trans-1,2-Dichloroethene	43	38.6 [38.9]	< 5.0 U	44.9
Trichloroethene	3300	3760 [3950]	4370	4750
Vinyl chloride	2.4	< 2.0 U [3.1]	< 2.0 U	15.1

MW-0612-S2					
	11/10/2006	3/7/2007	6/25/2009	6/25/2009	4/19/2012
	Low-Flow	Low-Flow	Low-Flow	Low-Flow	PDB
	ug/L	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
1,1-Dichloroethene	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
Benzene	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	360	827	1440	1360	663
trans-1,2-Dichloroethene	130	160	199	183	148
Trichloroethene	1400	1320	353	268	747
Vinyl chloride	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U

MW-0609-S2				
	10/28/2010	5/13/2011	10/18/2011	4/20/2012
	PDB	PDB	PDB	PDB
	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	< 5.0 U	< 4.0 U	< 5.0 U	< 5.0 U
1,1-Dichloroethene	< 5.0 U	< 4.0 U	< 5.0 U	< 5.0 U
Benzene	< 5.0 U	< 4.0 U	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	20.3	130	24.1	175
trans-1,2-Dichloroethene	< 5.0 U	17	< 5.0 U	21.1
Trichloroethene	< 5.0 U	< 4.0 U	< 5.0 U	< 5.0 U
Vinyl chloride	< 2.0 U	4.8	< 2.0 U	3.2

- NOTES:
- REFER TO LEGEND SHEET FOR MAP SYMBOLS.
 - BOLD VALUES HIGHLIGHTED GRAY EXCEED THE MAXIMUM CONTAINMENT LEVEL (MCL) OR INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM) RISK INTEGRATED SYSTEM OF CLOSURE RESIDENTIAL DEFAULT CLOSURE LEVEL (RDCL).
 - COCs ARE LIMITED TO THOSE THAT HAVE BEEN DETECTED ONE OR MORE TIMES ABOVE THE MCLs OR IDEM RDCL.



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VOCs SCREENED WITH MCLs



DRAWING

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MW-0617-S1			
	3/7/2007	11/12/2008	12/29/2008
	Low-Flow	Low-Flow	Low-Flow
	ug/L	ug/L	ug/L
1,1-Dichloroethene	< 5.0 U	< 5.0 U (< 5.0 U)	< 5.0 U (< 5.0 U)
cis-1,2-Dichloroethene	< 5.0 U	< 5.0 U (< 5.0 U)	< 5.0 U (< 5.0 U)
Tetrachloroethene	48.1	< 5.0 U (18.3)	< 5.0 U (18.3)
trans-1,2-Dichloroethene	< 5.0 U	< 5.0 U (< 5.0 U)	< 5.0 U (< 5.0 U)
Trichloroethene	< 5.0 U	< 5.0 U (< 5.0 U)	< 5.0 U (< 5.0 U)
Vinyl chloride	< 2.0 U	< 2.0 U (< 2.0 U)	< 2.0 U (< 2.0 U)

MW-0603-S1			
	5/5/2010	10/28/2010	5/13/2011
	PDB	PDB	PDB
	ug/L	ug/L	ug/L
1,1-Dichloroethene	< 5 U	< 5.0 U	< 1.0 U
cis-1,2-Dichloroethene	< 5 U	< 5.0 U	< 1.0 U
Tetrachloroethene	< 5 U	< 5.0 U	< 1.0 U
trans-1,2-Dichloroethene	< 5 U	< 5.0 U	< 1.0 U
Trichloroethene	< 5 U	< 5.0 U	< 1.0 U
Vinyl chloride	< 2 U	< 2.0 U	< 1.0 U

MW-0602-S1		
	3/24/2006	11/7/2006
	Low-Flow	Low-Flow
	ug/L	ug/L
1,1-Dichloroethene	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	< 5.0 U	< 5.0 U
Tetrachloroethene	< 5.0 U	< 5.0 U
trans-1,2-Dichloroethene	< 5.0 U	< 5.0 U
Trichloroethene	< 5.0 U	< 5.0 U
Vinyl chloride	< 2.0 U	< 2.0 U

MW-0616-S1		
	11/13/2006	11/14/2008
	Low-Flow	Low-Flow
	ug/L	ug/L
1,1-Dichloroethene	2.1 U	< 5.0 U
cis-1,2-Dichloroethene	880	226
Tetrachloroethene	< 5.0 U	< 5.0 U
trans-1,2-Dichloroethene	54	18.6
Trichloroethene	5.7	< 5.0 U
Vinyl chloride	3.7	10.3

MW-0610-S1				
	5/5/2010	10/28/2010	5/13/2011	10/18/2011
	PDB	PDB	PDB	PDB
	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
cis-1,2-Dichloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
Tetrachloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
trans-1,2-Dichloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
Trichloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
Vinyl chloride	< 2 U	< 2.0 U	< 1.0 U	< 2.0 U

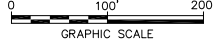
MW-0611-S1		
	11/13/2006	11/13/2008
	Low-Flow	Low-Flow
	ug/L	ug/L
1,1-Dichloroethene	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	< 5.0 U	< 5.0 U
Tetrachloroethene	< 5.0 U	< 5.0 U
trans-1,2-Dichloroethene	< 5.0 U	< 5.0 U
Trichloroethene	< 5.0 U	< 5.0 U
Vinyl chloride	< 2.0 U	< 2.0 U

MW-0618-S1		
	11/13/2006	11/12/2008
	Low-Flow	Low-Flow
	ug/L	ug/L
1,1-Dichloroethene	< 5.0 U	< 5.0 U
cis-1,2-Dichloroethene	< 5.0 U	< 5.0 U
Tetrachloroethene	< 5.0 U	< 5.0 U
trans-1,2-Dichloroethene	< 5.0 U	< 5.0 U
Trichloroethene	< 5.0 U	< 5.0 U
Vinyl chloride	< 2.0 U	< 2.0 U

MW-0613-S1				
	5/5/2010	10/28/2010	5/13/2011	10/18/2011
	PDB	PDB	PDB	PDB
	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
cis-1,2-Dichloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
Tetrachloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
trans-1,2-Dichloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
Trichloroethene	< 5 U	< 5.0 U	< 1.0 U	< 5.0 U
Vinyl chloride	< 2 U	< 2.0 U	< 1.0 U	< 2.0 U

MW-0607-S1				
	5/5/2010	5/6/2010	10/28/2010	5/13/2011
	Low-Flow	PDB	PDB	PDB
	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethene	< 5 U	< 5 U	< 5.0 U	< 1.0 U
cis-1,2-Dichloroethene	< 5 U	< 5 U	< 5.0 U	< 1.0 U
Tetrachloroethene	< 5 U	< 5 U	< 5.0 U	< 1.0 U
trans-1,2-Dichloroethene	< 5 U	< 5 U	< 5.0 U	< 1.0 U
Trichloroethene	< 5 U	< 5 U	< 5.0 U	< 1.0 U
Vinyl chloride	< 2 U	< 2 U	< 2.0 U	< 1.0 U

- NOTES:
1. REFER TO LEGEND SHEET FOR MAP SYMBOLS.
 2. CHEMICALS PRESENTED ARE TETRACHLOROETHENE, TRICHLOROETHENE AND THEIR BREAKDOWN PRODUCTS.
 3. BOLD VALUES EXCEED RESIDENTIAL SCREENING CRITERIA.
 4. BOLD VALUES HIGHLIGHTED GRAY EXCEED INDUSTRIAL SCREENING CRITERIA.

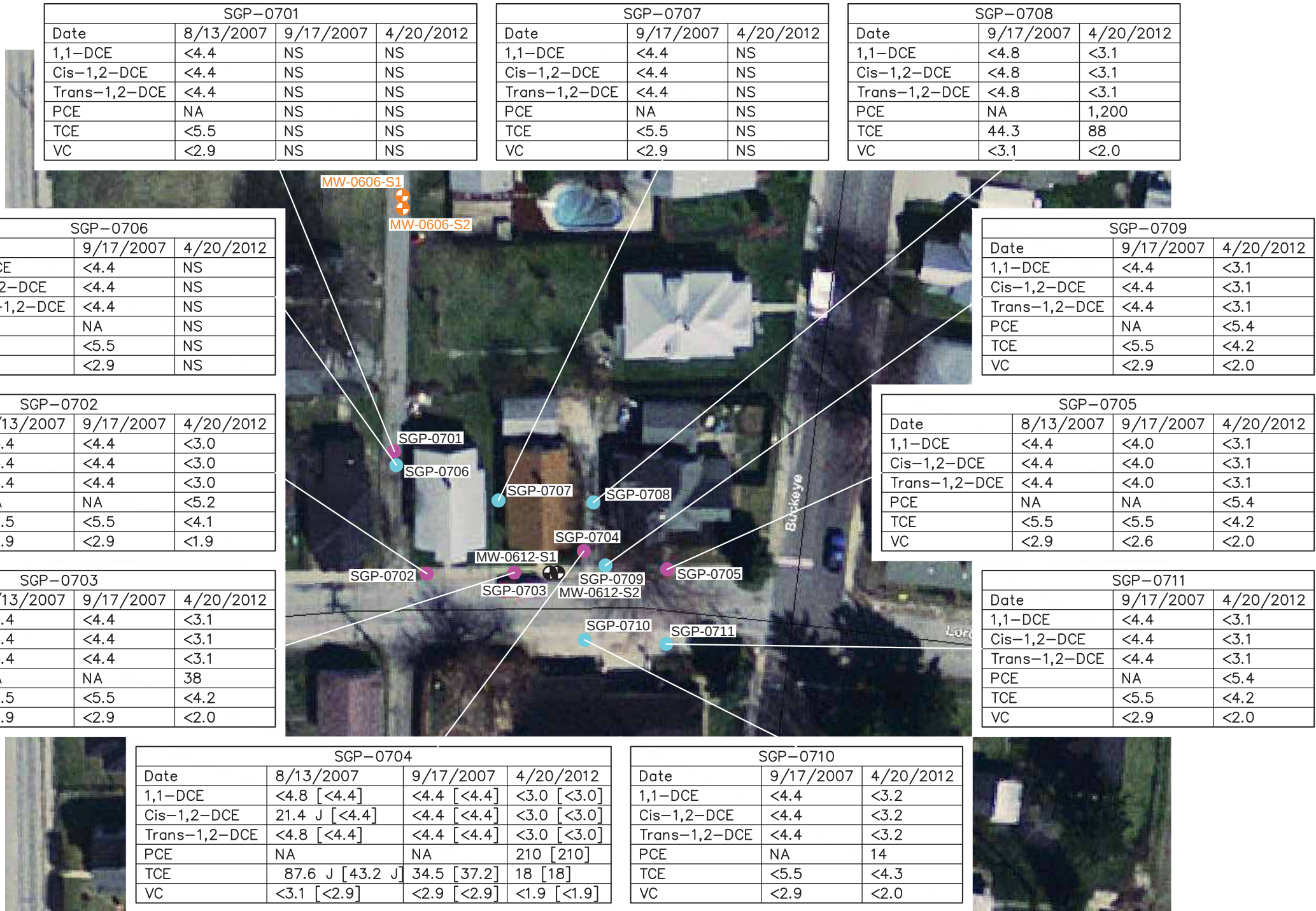


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VOCs ANALYTICAL SCREENING -
GROUNDWATER VAPOR INTRUSION
CRITERIA - OFF-SITE OUTSIDE PLUME

DRAWING
6

CITY: SYRACUSE, NY DIV: GROUP: ENV/IM/DV DB: P. LISTER PMTW: S. FISHER TR: M. GRILES LYP: ON+OFF=REF-
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XREFS: IMAGES: PROJECTNAME: Actual Soil Gas Port Locations.jpg



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SOIL GAS SAMPLING RESULTS



Appendix A

PDB versus Low Flow Statistical
Analysis

Evaluation of Groundwater Sampling Techniques
Passive Diffusion Bag Samplers and
Low-Flow Groundwater Sampling

GM Delco Plant 5
Kokomo, Indiana

Background	2
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Evaluation of Data	3
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Tables

Table 1	Selected Monitoring Wells
Table 2	Comparison of Low Flow Sampling and Passive Diffusion Bags, Former GM Delco Plant 5, Kokomo, Indiana
Table 3	Evaluation of Detected Analytical Results

Drawings

Drawing 1	Scatterplot of Concentrations for April 2012 Event Former GM Delco Plant 5 Samples Obtained by Low and Passive Diffusion Sampling Techniques (n=15 detects) Evaluation of Groundwater Sampling Techniques.
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Background

As result of GM's recent bankruptcy, certain operating assets of GM Corp. (GMC, aka Motors Liquidation Company) were sold on July 10, 2009 to a newly formed company, which is now known as General Motors LLC. The assets not purchased by GM LLC remained the property of Motors Liquidation Company, in its capacity as a debtor-in-possession in the bankruptcy case. Prior to GMC's bankruptcy, GMC initiated an evaluation at the Former GM Delco Plant 5 (the Site) to determine if passive diffusion sampling could be used to monitor the volatile organic compounds (VOC) in groundwater instead of the existing sampling technique (low flow sampling) used for the projects. It is estimated that passive diffusion sampling may result in a cost savings of approximately 40% of the sampling costs during monitoring events.

Passive diffusion bag (PDB) samplers are constructed of low-density polyethylene and contain deionized water. The PDB samplers operate by relying on the movement of groundwater through the monitoring well screen. The VOCs in the groundwater diffuse across the PDB until the concentrations in the PDB are in equilibrium with the concentration in the groundwater.

PDB samplers were deployed in selected monitoring wells, ranging in concentrations of VOCs and aquifer type (confined and bedrock). The previous effort included sample collection in ten monitoring wells, sampled during two collection events occurring in June 2009 and May 2010. The results of this study were presented in a technical memorandum prepared by ARCADIS in October 2010 (ARCADIS, 2010). A statistical analysis appropriate for "matched detected pairs" was conducted to evaluate the agreement and potential bias between VOC concentrations reported for samples collected by the two sampling methods. In general, the two sample methodologies showed strong correlation with results of the low flow sampling showing only slightly higher concentrations, with limited bias, and uniform scatter of residuals; indicating that the concentrations were independent of sampling technique.

In response to these findings, additional PDB versus low flow sample data was requested by the agency to confirm results for a focused set of monitoring wells within on-site and off-site aquifer units.

In April 2012, and with agreement from EPA, Region V, three on-site monitoring wells and one off-site monitoring well were sampled using both PDB and low flow sampling methods. Table 1 presents the selected monitoring wells at the site. The PDB samplers were allowed to equilibrate in the monitoring wells for approximately three weeks prior to the sampling event. By collecting a pair of samples for each event – one using PDB samplers and one using low-flow sampling – a statistical analysis appropriate for "matched pairs" can be conducted to evaluate the correspondence between VOC concentrations reported for samples collected by the two sampling methods.

At the site, monitoring wells were sampled via low-flow sampling within 24-hours from the time the PDB sampler was retrieved. For this dataset, the sample results (VOC concentrations) associated with the low-flow and corresponding PDB sampling are paired. Groundwater analytical results are summarized in Table 2. A set of field duplicate samples were obtained at monitoring well MW-0101-S1U for both the low flow and PDB method. Based on the results, agreement between the parent and duplicate indicated limited differences, as the low flow parent-duplicate showed a mean relative percent difference (RPD) of 7% and the PDB parent-duplicate showed a mean RPD 3% for the five detected VOCs. The largest difference was shown for TCE within the low flow parent-duplicate at a value of 17%. Based on these agreements, the parent and duplicate results were averaged per VOC and utilized in the matched pair data analysis. Laboratory analytical reports are provided in Appendix A of this memo.

Evaluation of Data

Analytical groundwater data for the site were pooled. Multiple compounds (1,1 DCE, cis-1,2 DCE, trans-1,2 DCE, TCE, and vinyl chloride) were also pooled into a single data set in order to have a sufficient sample size to evaluate the paired results. Typically, a minimum sample size of 8 to 10 observations is recommended to conduct most statistical evaluations, including correlation or regression analysis (e.g., p. 5-3 of USEPA, 2009¹). This is the minimum sample size needed to assess variability and evaluate distribution shapes. It is assumed that the influence (if any) of the PDB sampling method on the concentration of a VOC is similar for each VOC. A natural logarithm transformation was applied to the 15 pairs with detects in both sample results to accommodate the difference in the range of concentrations associated with different VOCs. Five data pairs with non-detects in one or both sample results were excluded. Table 3 presents the evaluation of the detected data. Drawing 1 (upper figure) shows the least-squares linear regression line fit to the final data set, the regression equation and r-square, a key corresponding to each of the 5 constituent data groups, and a 1:1 line (dotted blue) showing hypothetical perfect correspondence between PDB and low flow sampling. The following observations are noted:

- There is a very strong correlation between low flow and PDB sample results ($r^2 = 0.95$). The results are reliable given that data pairs exhibit natural log concentrations across the entire interval [2.1, 9.5], equivalent to a range (untransformed) of 8.3 to 13,500 ug/L.
- There is minimal bias associated with PDB sampling, meaning that concentrations appear to be independent of sampling technique. The

¹ United States Environmental Protection Agency (USEPA). 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities. Unified Guidance. Office of Resource Conservation and Recovery. EPA/530/R-09/007. March. Available online: <http://www.epa.gov/osw/hazard/correctiveaction/resources/guidance/sitechar/gwstats/index.htm>

regression analysis provides an indication of correspondence based on deviations from a slope of 1.0 and intercept of zero. For this dataset, a slope of 0.95 and positive intercept (0.085) suggests that low flow sampling yields slightly higher concentrations than PDB sampling. However, the ratio of concentrations (low flow/PDB) ranges from 0.37 to 4.4 with a mean of 1.1 and median of 0.97.

- Subsets of data based on VOC pairs appear to be evenly scattered on either side of the regression line (Drawing 1, lower figure), further indicating that the direction and magnitude of differences in concentrations between the two sampling methods is not chemical-specific.
- Based on well-specific observations, monitoring well MW-0101-S1U indicated the largest observed differences for 1,1 DCE and TCE. The 1,1 DCE results were on the low end of the observed VOCs concentration range, with low flow result of 8.3 ug/L and PDB result of 20.4 ug/L. The TCE results were on the high end of the observed VOCs concentration range, with low flow result of 4,970 ug/L and PDB result of 13,500 ug/L. Monitoring well MW-0102-S1U did indicate some potential bias for PDB results, which warrants some further investigation into the potential cause and source of the variability; however RPD values were within approximately 50% and did not indicate any noticeable outliers.
- Sand Unit S1 wells MW-0101-S1U and MW-0102-S1U observed VOC concentrations for the matched detected pairs indicated the highest variability in RPD amongst the wells sampled. Additional paired collections may be warranted within this type of aquifer unit to support future use of PDBs.

Based on this data review and extensive literature on the accuracy and advantages of use of PDBs for VOC sampling, ARCADIS recommends that groundwater samples to be analyzed for VOCs at the Site be collected with the PDB samplers and allowed to equilibrate in the monitoring well for a minimum of three weeks. Although this sampling methodology has shown higher detections when compared to low-flow sampling, the cost savings using PDBs versus low-flow sampling creates a benefit for the overall project. When it comes to evaluating groundwater data where concentrations are above groundwater vapor intrusion screening criteria or when performing groundwater sampling for closure, ARCADIS suggests collecting data via low-flow sampling methodology. For groundwater samples to be analyzed for other analytical methods (i.e., metals, SVOCs), low flow sampling methodology will continue to be utilized

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Table 1. Selected Monitoring Wells, Evaluation of Groundwater Sampling Techniques.

Selected Monitoring Well	Low Flow and PDB Collection Date	Aquifer type
MW-0101-S1U	4/19/2012	Confined
MW-0102-S1U	4/19/2012	Confined
MW-0506-S2	4/19/2012	Confined
MW-0612-S2	4/19/2012	Confined

Table 2. Comparison of Low Flow Sampling and Passive Diffusion Bags Concentrations for Select Compounds.

Compound	Sampling Technique		MW-0101-S1U ¹	MW-0102-S1U		MW-0506-S2	MW-0612-S2
1,1-DCE	Low Flow	Sand Unit S1	8.3	<5	Sand Unit S2	<5	<5
	PDB		20.4	5.9		<5	<5
	Difference (%)		-145.18	NC		NC	NC
cis-1,2-DCE	Low Flow		693	563		565	663
	PDB		718	948		520	678
	Difference (%)		-3.68	-68.38		7.96	-2.26
trans-1,2-DCE	Low Flow		62.7	85.9		68.5	148
	PDB		57.2	108		67.1	140
	Difference (%)		8.85	-25.73		2.04	5.41
TCE	Low Flow		4970	2380		585	747
	PDB		13500	3970		583	625
	Difference (%)		-171.63	-66.81		0.34	16.33
Vinyl Chloride	Low Flow		80.1	21.2		<2	<2
	PDB		67.7	35.1		<2	<2
	Difference (%)		15.49	-65.57		NC	NC

1. Field duplicate taken at this well for both Low Flow and PDB sample method. Results present average of detected concentrations
Compounds that had a detection in one or more of the samples are presented.

NC - Not calculated due to non-detect in one or more of the samples

Concentrations in ug/L (micrograms/Liter).

PDB - Passive diffusion bag

Shaded cells are where one or both samples were non-detect

Percent Difference = { (Low Flow Conc - PDB Conc) / Low Flow Conc } X 100

ARCADIS

Table 3. Evaluation of Detected Analytical Results, Evaluation of Groundwater Sampling Techniques.

Detects

Site-Chem	Sample ID	PDB (ug/L)	Low Flow (ug/L)	Difference (%)	RPD (%)	Ratio	Ln [PDB] (ug/L)	Ln [Low Flow] (ug/L)
KO-1,1DCE	MW-0101-S1U	20.4	8.3	-146%	-84%	0.41	3.016	2.116
KO-cis12DCE	MW-0101-S1U	718	693	-4%	-4%	0.97	6.576	6.541
KO-cis12DCE	MW-0102-S1U	948	563	-68%	-51%	0.59	6.854	6.333
KO-cis12DCE	MW-0506-S2	520	565	8%	8%	1.1	6.254	6.337
KO-cis12DCE	MW-0612-S2	678	663	-2%	-2%	4.4	6.519	6.497
KO-trans12DCE	MW-0101-S1U	57.2	62.7	9%	9%	0.80	4.047	4.138
KO-trans12DCE	MW-0102-S1U	108	85.9	-26%	-23%	0.80	4.682	4.453
KO-trans12DCE	MW-0506-S2	67.1	68.5	2%	2%	1.0	4.206	4.227
KO-trans12DCE	MW-0612-S2	140	148	5%	6%	1.1	4.942	4.997
KO-TCE	MW-0101-S1U	13500	4970	-172%	-92%	0.37	9.510	8.511
KO-TCE	MW-0102-S1U	3970	2380	-67%	-50%	0.76	8.287	7.775
KO-TCE	MW-0506-S2	583	585	0%	0.3%	1.0	6.368	6.372
KO-TCE	MW-0612-S2	625	747	16%	18%	1.2	6.438	6.616
KO-VC	MW-0101-S1U	67.7	80.1	15%	17%	1.2	4.215	4.383
KO-VC	MW-0102-S1U	35.1	21.2	-66%	-49%	0.85	3.558	3.054

mean	-20%	1.1
median	-2%	0.97
min	0.3%	0.37
max	-92%	4.4

 = (pink shading) RPD < 0, or Low Flow < PDB

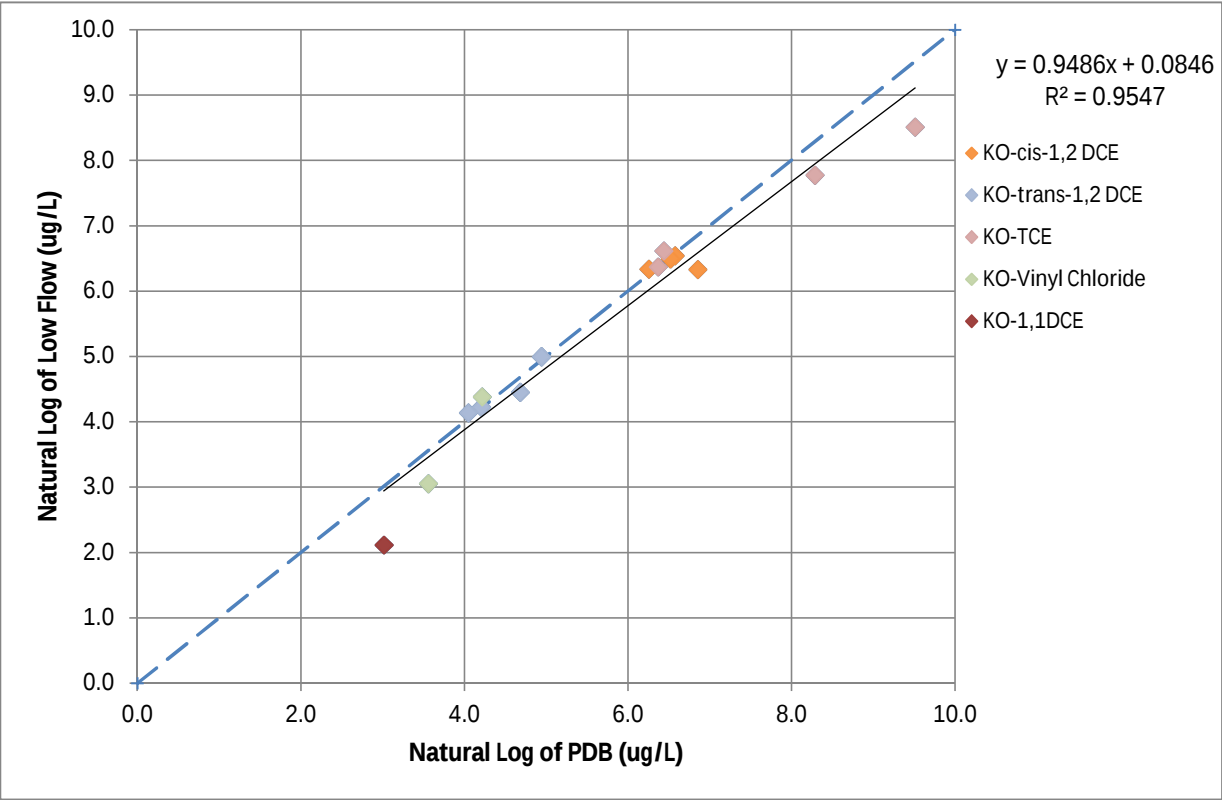
RPD - Relative Percent Difference = 100% x (Range / Mean)

PDB - Passive diffusion bag

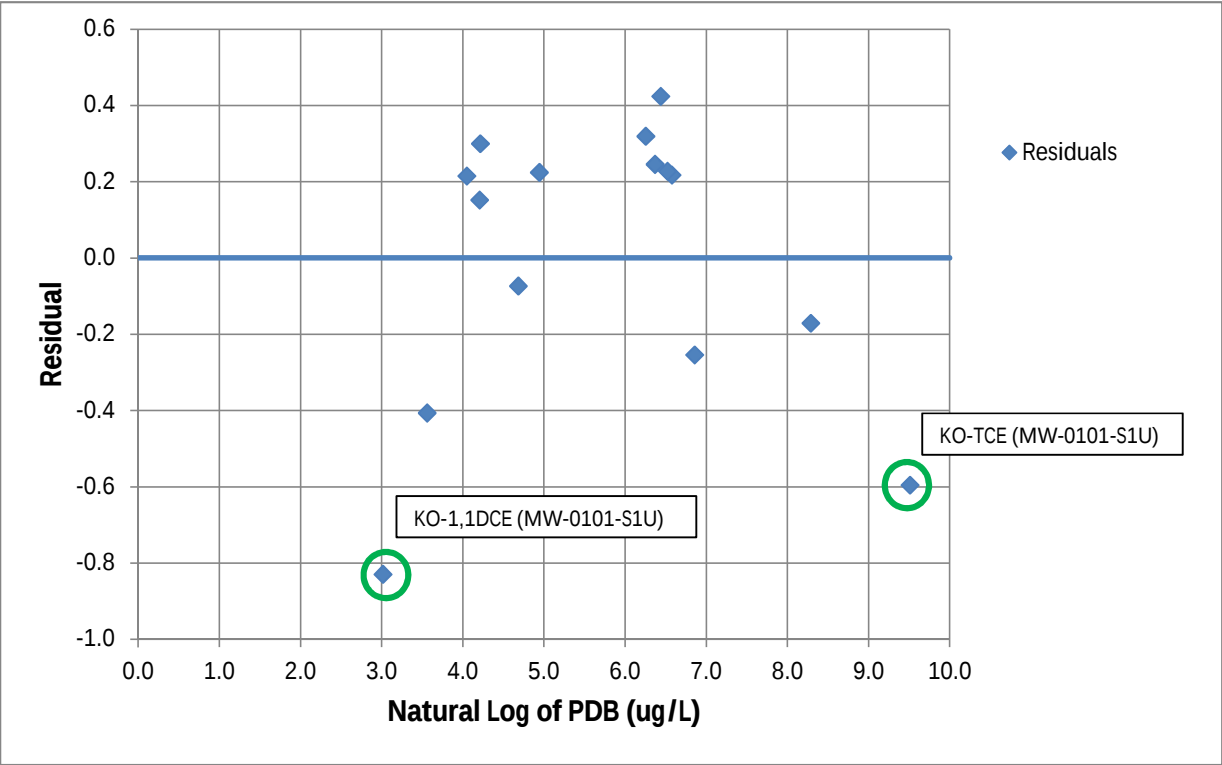
ug/L - micrograms/Liter

ARCADIS

Drawing 1. Scatterplot of Concentrations for Current April 2012 Event Former GM Delco Plant 5 Samples Obtained by Low Flow and Passive Diffusion Sampling Techniques (n=15 detects), Evaluation of Groundwater Sampling Techniques. Lower Graph Shows Regression Line Residuals.



KO = Former GM Delco Plant 5, Kokomo, Indiana





Appendix B

Data Validation Report and
Groundwater Analytical Reports
(Provided on CD)



Appendix C

Soil-Gas Analytical Report

6/1/2012

Ms. Sarah Jonker
Arcadis U.S., Inc.
251 East Ohio St., Suite 800

Indianapolis IN 46204

Project Name: Kokomo-Racer
Project #: IN000884.2012.00006
Workorder #: 1204472R1

Dear Ms. Sarah Jonker

The following report includes the data for the above referenced project for sample(s) received on 4/23/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott
Project Manager

WORK ORDER #: 1204472R1

Work Order Summary

CLIENT: Ms. Sarah Jonker
Arcadis U.S., Inc.
251 East Ohio St., Suite 800
Indianapolis, IN 46204

BILL TO: Accounts Payable
Arcadis U.S., Inc.
630 Plaza Drive
Suite 600
Highlands Ranch, CO 80129

PHONE: 317-231-6500

P.O. # IN000884.2012.00006

FAX: 317-231-6514

PROJECT # IN000884.2012.00006 Kokomo-Racer

DATE RECEIVED: 04/23/2012

CONTACT: Ausha Scott

DATE COMPLETED: 05/04/2012

DATE REISSUED: 06/01/2012

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SGP-0711 (042012)	Modified TO-15	4.5 "Hg	5 psi
02A	SGP-0710 (042012)	Modified TO-15	5.0 "Hg	5 psi
03A	SGP-0709 (042012)	Modified TO-15	4.5 "Hg	5 psi
04A	SGP-0708 (042012)	Modified TO-15	4.5 "Hg	5 psi
05A	SGP-0704 (042012)	Modified TO-15	3.5 "Hg	5 psi
06A	SGP-0705 (042012)	Modified TO-15	4.5 "Hg	5 psi
07A	SGP-0702 (042012)	Modified TO-15	3.5 "Hg	5 psi
08A	SGP-0703 (042012)	Modified TO-15	4.0 "Hg	5 psi
09A	Dup-01 (042012)	Modified TO-15	3.5 "Hg	5 psi
10A	Lab Blank	Modified TO-15	NA	NA
11A	CCV	Modified TO-15	NA	NA
12A	LCS	Modified TO-15	NA	NA
12AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 06/01/12

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089,
NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Arcadis U.S., Inc.
Workorder# 1204472R1

Nine 1 Liter Summa Canister samples were received on April 23, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

THE WORKORDER WAS REISSUED ON JUNE 01, 2012 TO REPORT TETRACHLOROETHENE PER CLIENT'S REQUEST.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SGP-0711 (042012)

Lab ID#: 1204472R1-01A

No Detections Were Found.

Client Sample ID: SGP-0710 (042012)

Lab ID#: 1204472R1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.80	2.1	5.5	14

Client Sample ID: SGP-0709 (042012)

Lab ID#: 1204472R1-03A

No Detections Were Found.

Client Sample ID: SGP-0708 (042012)

Lab ID#: 1204472R1-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.79	16	4.2	88
Tetrachloroethene	0.79	180	5.4	1200

Client Sample ID: SGP-0704 (042012)

Lab ID#: 1204472R1-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.76	3.3	4.1	18
Tetrachloroethene	0.76	32	5.2	210

Client Sample ID: SGP-0705 (042012)

Lab ID#: 1204472R1-06A

No Detections Were Found.

Client Sample ID: SGP-0702 (042012)

Lab ID#: 1204472R1-07A

No Detections Were Found.

Summary of Detected Compounds

EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SGP-0703 (042012)

Lab ID#: 1204472R1-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.78	5.6	5.2	38

Client Sample ID: Dup-01 (042012)

Lab ID#: 1204472R1-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.76	3.3	4.1	18
Tetrachloroethene	0.76	30	5.2	210



Air Toxics

Client Sample ID: SGP-0711 (042012)

Lab ID#: 1204472R1-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042412r1	Date of Collection:	4/20/12 10:19:00 AM
Dil. Factor:	1.58	Date of Analysis:	4/24/12 12:42 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.79	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.79	Not Detected	3.1	Not Detected
cis-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Trichloroethene	0.79	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Tetrachloroethene	0.79	Not Detected	5.4	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: SGP-0710 (042012)

Lab ID#: 1204472R1-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042413r1	Date of Collection:	4/20/12 10:53:00 AM
Dil. Factor:	1.61	Date of Analysis:	4/24/12 01:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.80	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.80	Not Detected	3.2	Not Detected
cis-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Trichloroethene	0.80	Not Detected	4.3	Not Detected
trans-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Tetrachloroethene	0.80	2.1	5.5	14

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: SGP-0709 (042012)

Lab ID#: 1204472R1-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042414r1	Date of Collection:	4/20/12 11:29:00 AM
Dil. Factor:	1.58	Date of Analysis:	4/24/12 01:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.79	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.79	Not Detected	3.1	Not Detected
cis-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Trichloroethene	0.79	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Tetrachloroethene	0.79	Not Detected	5.4	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: SGP-0708 (042012)

Lab ID#: 1204472R1-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042415r1	Date of Collection:	4/20/12 11:55:00 AM
Dil. Factor:	1.58	Date of Analysis:	4/24/12 02:17 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.79	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.79	Not Detected	3.1	Not Detected
cis-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Trichloroethene	0.79	16	4.2	88
trans-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Tetrachloroethene	0.79	180	5.4	1200

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: SGP-0704 (042012)

Lab ID#: 1204472R1-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042416r1	Date of Collection:	4/20/12 12:40:00 PM
Dil. Factor:	1.52	Date of Analysis:	4/24/12 02:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
1,1-Dichloroethene	0.76	Not Detected	3.0	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Trichloroethene	0.76	3.3	4.1	18
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Tetrachloroethene	0.76	32	5.2	210

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: SGP-0705 (042012)

Lab ID#: 1204472R1-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042417r1	Date of Collection:	4/20/12 1:30:00 PM
Dil. Factor:	1.58	Date of Analysis:	4/24/12 03:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.79	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.79	Not Detected	3.1	Not Detected
cis-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Trichloroethene	0.79	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Tetrachloroethene	0.79	Not Detected	5.4	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: SGP-0702 (042012)

Lab ID#: 1204472R1-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042418r1	Date of Collection:	4/20/12 2:01:00 PM
Dil. Factor:	1.52	Date of Analysis:	4/24/12 03:32 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
1,1-Dichloroethene	0.76	Not Detected	3.0	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Trichloroethene	0.76	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Tetrachloroethene	0.76	Not Detected	5.2	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: SGP-0703 (042012)

Lab ID#: 1204472R1-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042419r1	Date of Collection:	4/20/12 2:42:00 PM
Dil. Factor:	1.55	Date of Analysis:	4/24/12 03:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.78	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.78	Not Detected	3.1	Not Detected
cis-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Trichloroethene	0.78	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Tetrachloroethene	0.78	5.6	5.2	38

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: Dup-01 (042012)

Lab ID#: 1204472R1-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042420r1	Date of Collection:	4/20/12
Dil. Factor:	1.52	Date of Analysis:	4/24/12 04:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
1,1-Dichloroethene	0.76	Not Detected	3.0	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Trichloroethene	0.76	3.3	4.1	18
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Tetrachloroethene	0.76	30	5.2	210

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1204472R1-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042406	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/12 10:24 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: CCV

Lab ID#: 1204472R1-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/12 08:48 AM

Compound	%Recovery
Vinyl Chloride	97
1,1-Dichloroethene	95
cis-1,2-Dichloroethene	97
Trichloroethene	98
trans-1,2-Dichloroethene	96
Tetrachloroethene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCS

Lab ID#: 1204472R1-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/12 09:20 AM

Compound	%Recovery
Vinyl Chloride	87
1,1-Dichloroethene	89
cis-1,2-Dichloroethene	87
Trichloroethene	90
trans-1,2-Dichloroethene	95
Tetrachloroethene	91

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1204472R1-12AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j042404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/24/12 09:38 AM

Compound	%Recovery
Vinyl Chloride	88
1,1-Dichloroethene	92
cis-1,2-Dichloroethene	90
Trichloroethene	92
trans-1,2-Dichloroethene	99
Tetrachloroethene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	98	70-130