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February 23, 2012

Michael J. Hinton P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Ave.
Buffalo, NY 14203-2999

Re: Carborundum Globar, Site No. 932036
Town of Niagara, Niagara County
Fall 2011 Annual Monitoring Report

Dear Mr. Hinton:

Enclosed is the Fall 2011 Annual Monitoring Report, containing results of sampling conducted in October 2011. If you have any questions regarding this report, feel free to contact William Barber at (216) 271-8038.

Sincerely,

Mark S. Raybuck

Mark Raybuck
Project Manager

cc: W. Barber

Annual Summary Report

SUMMARY REPORT FOR THE FALL 2011 GROUNDWATER MONITORING EVENT

Former Carborundum Company, Hyde Park Facility (Site No. 932036)

Town of Niagara, Niagara County, NY

SUBMITTED TO:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF HAZARDOUS WASTE REMEDIATION

SUBMITTED BY:

Atlantic Richfield Company

A BP affiliated company

4850 East 49th Street
Cuyahoga Heights, Ohio 44125

PREPARED BY:

PARSONS

40 La Riviere Drive, Suite 350
Buffalo, New York 14202

FEBRUARY 2012

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SECTION 1
INTRODUCTION

This annual report summarizes the groundwater monitoring activities completed at the Former Carborundum Company Hyde Park Facility (Site) in the Town of Niagara, New York (Figure 1.1). Groundwater sampling was completed between October 20 and November 7, 2011. This report provides the data from the Fall 2011 sampling event and includes a comparison of the recent data against previous results. The ongoing annual groundwater monitoring is conducted on an alternating spring/fall schedule, and includes the collection of groundwater samples for the chemical analysis of VOCs and natural attenuation parameters.

This work was completed in accordance with the groundwater monitoring work plan (DE&S, 2000a) for Operable Unit 2 (OU2), approved by the New York State Department of Environmental Conservation (NYSDEC), correspondence from NYSDEC dated September 28, 2005 (NYSDEC 2005), and the letter to NYSDEC dated July 6, 2011.

This event was conducted in conjunction with the sampling event prior to injection of vegetable oil substrate, which was performed in November and December 2011. The scope of work for the Fall 2011 groundwater monitoring event included:

- Collection of water level measurements from overburden and bedrock monitoring wells;
- Purging of overburden and bedrock monitoring wells and collecting field measurements of pH, temperature, specific conductivity, oxidation/reduction potential (ORP), dissolved oxygen (DO), total dissolved solids (TDS), and turbidity;
- Collection of groundwater samples from monitoring wells for volatile organic compound (VOC) analyses; and
- Collection of groundwater samples from selected overburden and bedrock monitoring wells for analysis of natural attenuation parameters, Dehalococcoides (DHC), and DHC genes.

A Site location map is provided as Figure 1.1, and a Site Plan is included as Figure 1.2.

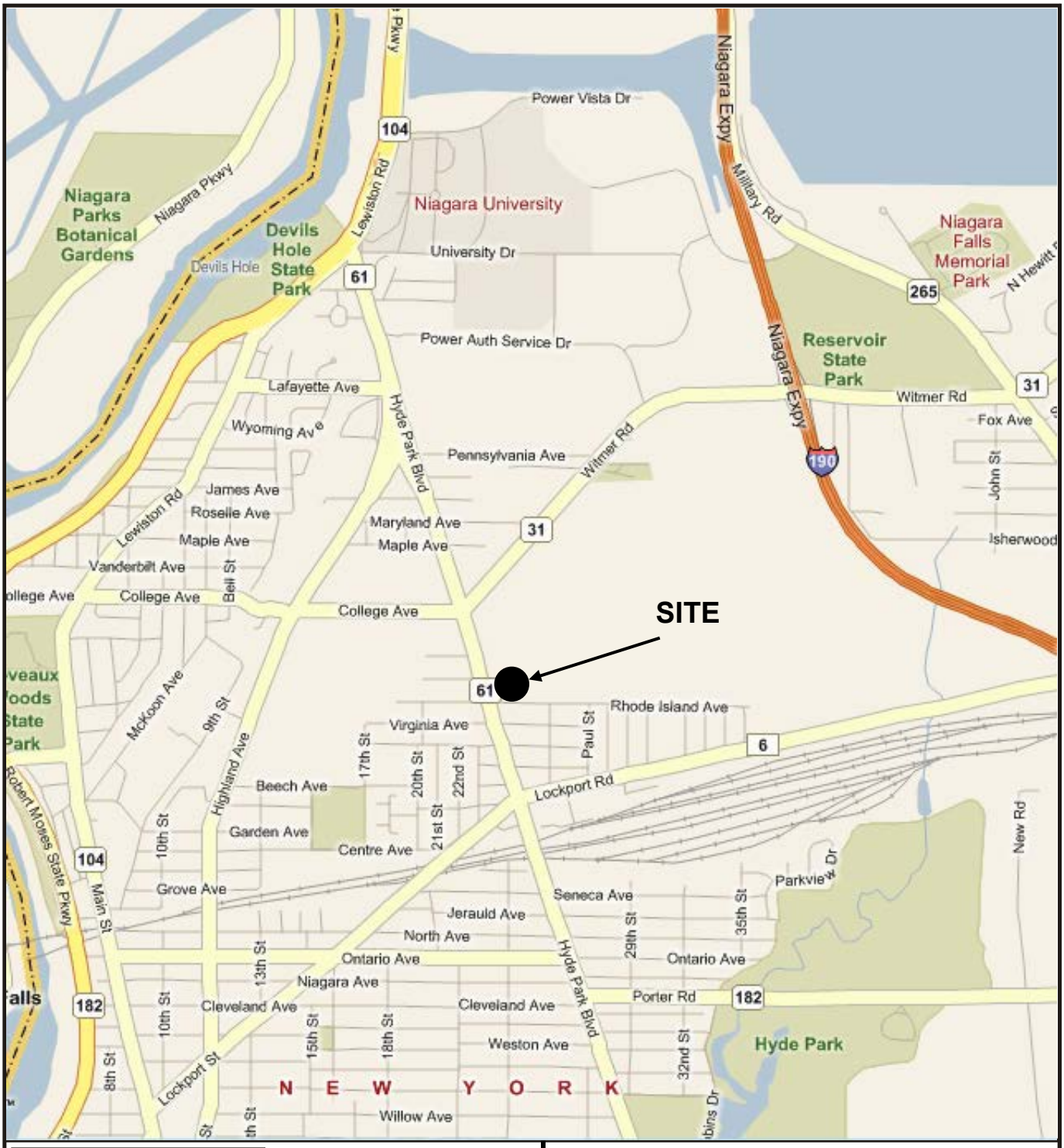
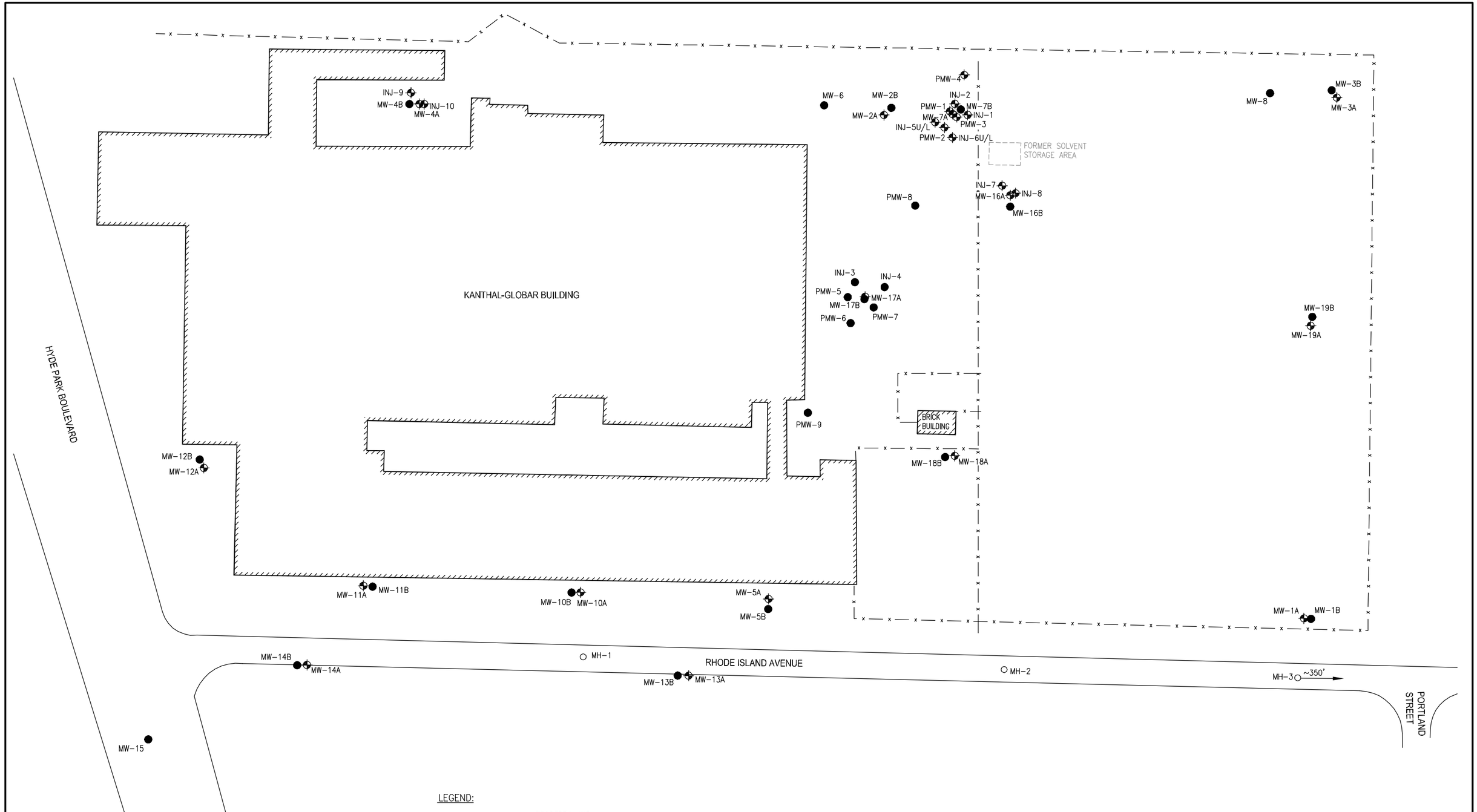


FIGURE 1.1

FORMER CARBORUNDUM CO.
ELECTRIC PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK

SITE LOCATION MAP

PARSONS
40 La Riviere Dr., Suite 350, Buffalo, NY 14202



LEGEND:

- PROPERTY LINE
- FENCE
- BEDROCK WELL
- OVERBURDEN WELL
- MH-1 MANHOLE (SANITARY SEWER SAMPLE LOCATION)

SOURCE: INTERA, 2006

HORIZONTAL DATUM: NAD83/96 NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE.
VERTICAL DATUM NAVD 88 DATUM

60 40 20 0 60

SCALE IN FEET

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FIGURE 1.2

FORMER CARBORUNDUM COMPANY
ELECTRIC PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK

SITE PLAN

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SECTION 2
PROGRAM METHODOLOGY

The groundwater monitoring program included water level monitoring, groundwater sampling from wells, and submission of groundwater samples for analysis of VOCs. Samples from nine monitoring well couplets (locations with overburden and bedrock monitoring wells) were also analyzed for natural attenuation parameters. Quality assurance/quality control (QA/QC) samples, including matrix spike/matrix spike duplicates, field duplicates, and trip blanks, were also submitted for analysis (Appendix A).

In September 2008, an *in situ* bioremediation pilot test was initiated, which featured the addition of vegetable oil-based substrate into the overburden groundwater. In November 2009, a similar injection was conducted in bedrock groundwater in addition to a second injection in the overburden. These data were presented in a separate deliverable to the NYSDEC (Parsons, 2009). An additional round of injections into the overburden groundwater at three separate locations on the site was conducted in November and December, 2011. Results of this injection event and subsequent performance monitoring events will be reported separately from this annual monitoring event report.

2.1 WATER LEVEL MONITORING

Water level monitoring was conducted on October 28, 2011. Water levels were measured relative to the top of the inner well casing using an electronic water level tape accurate to 0.01 ft. The depth to water was measured in each well from a surveyed point on the casing. The water levels were then converted to elevations presented as feet above mean sea level (ft AMSL, NAVD 88 datum). The groundwater elevations were used to construct groundwater flow contour maps in both the overburden and bedrock zones.

2.2 GROUNDWATER SAMPLING AND ANALYSIS

The locations of the monitoring wells are shown in Figure 1.2. Wells were sampled following the methodology outlined in the groundwater monitoring work plan (DE&S, 2000a), and subsequent correspondence with NYSDEC. Associated QA/QC samples were collected, including two field duplicates, two matrix spike/matrix spike duplicate samples and six trip blanks. A list of wells, dates sampled, sample IDs, and purge volumes is provided in Table 2.1. A copy of the groundwater sampling logs is provided in Appendix B.

During purging, groundwater was monitored for pH, specific conductivity, turbidity, DO, temperature, TDS, and ORP. An aliquot of the groundwater sample was tested in the field for the presence of ferrous iron.

Following collection, the samples were packed in ice and shipped via same-day or overnight delivery to an approved laboratory in accordance with chain-of-custody procedures. Groundwater sample analyses were performed by Lancaster Laboratories, Inc. (LLI) in Lancaster, PA and Microbial Insights (MI)(LLI). Table 2.2 provides a summary of analytical specifications, including analysis type, sample containers, analytical methods, and other information.

In addition to monitoring concentrations of COCs, several wells were selected for the monitoring of natural attenuation evaluation parameters. The seven well clusters chosen for these additional analyses are located along the groundwater flow path in upgradient, cross-gradient, and downgradient locations and in source areas. The well couplets selected for natural attenuation monitoring included MW-5, MW-7, MW-10, MW-12, MW-16, MW-17, and MW-18.

Purge water and decontamination water were contained and staged in either 55-gallon drums or containment tanks for disposal. Following receipt of sample results, the water was disposed off in the sanitary sewer under a permit with the Niagara Falls Water Board.

Table 2.1
Summary of Groundwater Sampling
Fall 2011 Monitoring Event
Former Carborundum Company, Hyde Park Facility

Well ID	Date Sampled	Sample ID	Volume Purged (gallons)
MW-2B	20-Oct-11	MW-2B	2.50
MW-4A	25-Oct-11	MW-4A	3.50
MW-5A	21-Oct-11	MW-5A	4.00
MW-5B	21-Oct-11	MW-5B	4.00
MW-6	20-Oct-11	MW-6, MW-60	2.25
MW-7A	27-Oct-11	MW-7A	2.50
MW-7B	26-Oct-11	MW-7B, MS, MSD	3.50
MW-8	24-Oct-11	MW-8	1.60
MW-10A	25-Oct-11	MW-10A	2.75
MW-10B	26-Oct-11	MW-10B	4.50
MW-11B	26-Oct-11	MW-11B	2.40
MW-12A	20-Oct-11	MW-12A	2.65
MW-12B	20-Oct-11	MW-12B	3.50
MW-13B	21-Oct-11	MW-13B	5.00
MW-14B	24-Oct-11	MW-14B	2.78
MW-15	21-Oct-11	MW-15	2.50
MW-16A	27-Oct-11	MW-16A	2.90
MW-16B	25-Oct-11	MW-16B	2.50
MW-17A	24-Oct-11	MW-17A, MW-171	2.65
MW-17B	26-Oct-11	MW-17B, MS, MSD	3.70
MW-18A	24-Oct-11	MW-18A	2.30
MW-18B	25-Oct-11	MW-18B	3.00
MW-19B	20-Oct-11	MW-19B	2.40

Table 2.2
Summary of Analytical Specifications
Fall 2011 Monitoring Event
Former Carborundum Company, Hyde Park Facility

Sample Type	Container Type	Sample Volume	Preservation Method	Max. Holding Time	Analytical Method
Chemicals of Concern (COCs)					
VOCs	40mL glass vial with septum top	4x40 mL	Hydrochloric acid, Cool 4oC	7days	SW846 Method 8260B
Natural Attenuation Parameters					
Methane, Ethene, Ethane, Propane	40mL glass vial with septum top	2x40 mL	Hydrochloric acid, Cool 4oC	7 days	USEPA RSK175
TOC	40mL glass vial with septum top	2x40 mL	Hydrochloric acid, Cool 4oC	7 days	USEPA 5310C
BOD	1L plastic	1L	None	48 hrs	USEPA 5120B
COD	250 mL plastic	250 mL	Sulfuric acid	28 days	USEPA 410.4
Total Iron	250 mL plastic	250 mL	Nitric acid	6 months	USEPA 6010B
Chloride	500 mL plastic	500 mL	None	28 days	USEPA 300.1
Nitrate	-	-	-	48 hours	USEPA 353.2
Nitrite	-	-	-	28 days	USEPA 354.1
Sulfate	-	-	-	28 days	USEPA 300.1
Sulfide	250 mL plastic	250 mL	Sodium hydroxide and zinc acetate	7 days	Standard Method 204500

Notes:
- = This parameter was analyzed from the above sample container

SECTION 3
GROUNDWATER MONITORING PROGRAM SUMMARY

3.1 GROUNDWATER ELEVATIONS AND FLOW DIRECTIONS

A summary of the groundwater elevations for water level measurements collected during groundwater sampling events completed in Fall of 2011 is provided in Table 3.1. Table 3.1 also includes well location and top of casing and ground surface elevations for the monitoring wells.

Groundwater in the overburden monitoring wells was measured at depths between 3.60 and 18.80 feet below ground surface (bgs). An overburden groundwater contour map was developed based on the October 28, 2011 water levels (Figure 3.1). The overburden groundwater flow direction is to the southwest, towards Hyde Park Boulevard and Rhode Island Avenue. The direction is consistent with historical data.

Groundwater in the bedrock monitoring wells was measured at depths between 2.90 and 11.20 feet bgs. A bedrock groundwater potentiometric surface contour map was developed based on the October 28, 2011 water levels (Figure 3.2). Consistent with historical observations of groundwater flow, the bedrock groundwater flow direction is generally southwesterly towards Hyde Park Boulevard and Rhode Island Avenue.

3.2 GROUNDWATER SAMPLING RESULTS

Field measurements collected for the Fall 2011 sampling event are provided in Table 3.2. Summaries of COCs and natural attenuation parameter results are included in Table 3.3. The complete analytical data results are included as Appendix C.

3.2.1 VOC Results

Groundwater samples from 23 groundwater monitoring wells (8 overburden, 15 bedrock) were collected and analyzed for the presence of VOCs.

For reporting purposes, the analytical results have been compared to the Class GA Groundwater Standards and Guidance provided in the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1: Ambient Groundwater Quality Standards and Guidance Values and Groundwater Effluent Limitations (NYSDEC, 1998). Results are summarized in Table 3.4.

Overburden Results: Figure 3.3 shows a summary of the overburden well COC analytical results from the Fall 2011 sampling event, and from several historical

events. The results for the eight overburden groundwater samples were generally consistent with previous rounds of monitoring and long-term trends. COCs with concentrations exceeding the Class GA criteria were detected in eight of the overburden well samples. The highest COC concentrations were detected in the samples from well MW-10A (DCE), located south of the building. Concentrations of TCE and DCE in MW-7A are less than historical levels. MW-7A is in the area of the vegetable oil substrate pilot test injection (September 2008, November 2009).

Concentrations across the Site continued to decrease or remain steady, with the exception of a gradually increasing TCE trend observed in MW-4A. Vegetable oil substrate was injected in the vicinity of MW-4A during the November and December 2011 injections, after this Fall 2011 sampling event. TCE was sporadically detected in the overburden (three of eight wells) at concentrations ranging between 11 and 160µg/L.

Bedrock Results: Figure 3.4 shows a summary of the bedrock well COC analytical results from the Fall 2011 sampling and several historical sampling events. The COC results for the 15 bedrock groundwater samples were generally consistent with historical concentrations and recent decreasing COC concentration trends. MW-10B was an exception, with DCE and VC increasing in 2011. Future sampling results will be evaluated to determine whether this is a measurable trend. COC concentrations exceeding the Class GA criteria were detected in 10 of the bedrock groundwater samples. Of the wells sampled, the higher concentrations of COCs were observed in MW-10B (DCE at 972.8µg/L). TCE was non-detect in all wells.

For the past two years, DCE concentrations in MW-17B (19.8 µg/L in 2011) have remained appreciably lower than historical concentrations (282 µg/L in 2009). MW-17B is located within the area of the bedrock vegetable oil substrate pilot test injection (November 2009).

3.2.2 Attenuation Monitoring Results

As part of the ongoing groundwater monitoring program, natural attenuation parameters were sampled during each monitoring event. The results for 2011 were generally consistent with previous monitoring events. Site-wide long-term changes in concentrations suggest that natural attenuation and biodegradation is an ongoing, active process. More detail regarding attenuation monitoring and the effects of the two pilot tests and November/December 2011 substrate injections will be presented in separate reports.

3.3 DATA VALIDATION

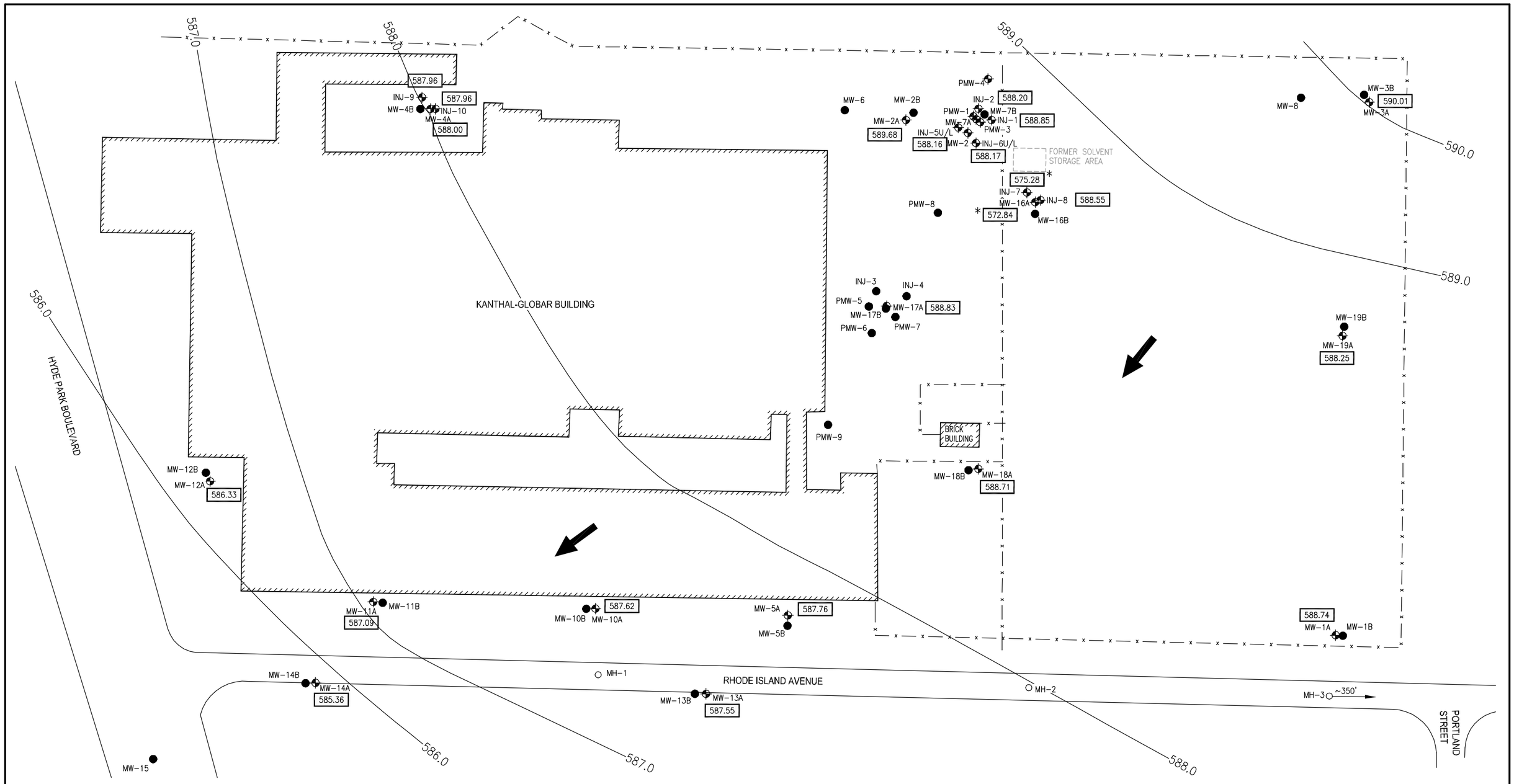
Groundwater samples were collected from the Hyde Park Site in the Town of Niagara, New York from October 20, 2011 through November 7, 2011. Analytical results from these samples were reviewed by Parsons for usability with respect to the following requirements:

- Work Plan,
- NYSDEC Analytical Services Protocol (ASP), and
- USEPA Region II Standard Operating Procedures (SOPs).

The analytical laboratory for this project was Lancaster Laboratories. This laboratory is approved to conduct project analyses through the New York Department of Health (NYDOH) Environmental Laboratory Approval Program (ELAP).

The data submitted by the laboratory have been reviewed and validated. The analytical data were found to be acceptable in terms of deliverable completeness, accuracy, precision, representativeness, completeness and comparability. Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs and the NYSDEC ASP for organic and inorganic data review.

A copy of the data usability summary report (DUSR) for groundwater samples is included in Appendix A.



LEGEND:

- PROPERTY LINE
- FENCE
- BEDROCK WELL
- OVERBURDEN WELL
- MH-1 MANHOLE
- 587.46 GROUNDWATER ELEVATION (FT-AMSL)
- * ELEVATIONS NOT USED IN CONTOURING, WELLS ARE TYPICALLY DRY OR SHOW EXTREMELY LOW WATER LEVELS.
- 587.0 EQUIPOTENTIAL CONTOUR LINE (1.0 FT. CONTOUR INTERVAL)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

SOURCE: INTERA, 2006

HORIZONTAL DATUM: NAD83/96 NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE.
VERTICAL DATUM NAVD 88 DATUM

60 40 20 0 60
SCALE IN FEET

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FIGURE 3.1

FORMER CARBORUNDUM COMPANY
ELECTRIC PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK

OVERBURDEN GROUNDWATER ELEVATIONS OCTOBER 28, 2011

PARSONS
40 LA RIVIERE DRIVE, SUITE 350, BUFFALO. NEW YORK 14202 PHONE: 716-541-0730

INJ-9
MW-4B
INJ-10
MW-4A
588.01
588.07
MW-6
588.12
MW-2B
MW-2A
PMW-4
INJ-2
PMW-1
MW-7B
588.50
MW-7A
INJ-1
INJ-5U/L
PMW-3
PMW-2
INJ-6U/L
FORMER SOLVENT STORAGE AREA
588.78
MW-8
588.50
MW-3B
MW-3A
INJ-7
MW-16A
INJ-8
MW-16B
588.56
PMW-8
588.09
588.0
HYDE PARK BOULEVARD
KANTHAL-GLOBAR BUILDING
**
589.31
INJ-3
588.15
INJ-4
588.06
PMW-5
MW-17A
588.07
MW-17B
PMW-6
PMW-7
587.84
587.69
588.74
MW-19B
MW-19A
588.01
PMW-9
BRICK BUILDING
MW-18B
MW-18A
588.05
587.99
MW-12B
MW-12A
MW-11A
MW-11B
587.26
587.97
MW-10B
MW-10A
MW-5A
MW-5B
587.97
588.71
MW-1A
MW-1B
587.5
MW-14B
MW-14A
587.75
MH-1
587.54
MW-13B
MW-13A
RHODE ISLAND AVENUE
MH-2
MH-3
~350'
PORTLAND STREET
* 587.22
MW-15
587.5
588.0
588.5

LEGEND:

PROPERTY LINE

FENCE

BEDROCK WELL

OVERBURDEN WELL

MH-1

587.46 GROUNDWATER ELEVATION (FT-AMSL)

* EXTRAPOLATED VALVE FROM 10/21/11 MEASUREMENT

587.5 EQUIPOTENTIAL CONTOUR LINE (0.5 FT. CONTOUR INTERVAL)

APPROXIMATE GROUNDWATER FLOW DIRECTION

** VALUE OMMITTED FROM CONTOURS DUE TO ANOMALOUS READING RELATIVE TO FLOW FIELD.

60 40 20 0 60

SCALE IN FEET

N

SOURCE: INTERA, 2006

HORIZONTAL DATUM: NAD83/96 NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE.
VERTICAL DATUM NAVD 88 DATUM

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FIGURE 3.2

FORMER CARBORUNDUM COMPANY
ELECTRIC PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK

BEDROCK GROUNDWATER ELEVATIONS OCTOBER 28, 2011

PARSONS
40 LA RIVIERE DRIVE, SUITE 350, BUFFALO. NEW YORK 14202 PHONE: 716-541-0730

MW-4A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	2.8	3.4	6.3	9.6	30	37	53	34	34	130	94	160
DCE	74	140	160	170	240	250	425	203.2	203.1	115.7	254.9	158.1
VC	45	24	54	31	48	57	33.5	56	53	41	45	73
DCA	4.6	5.4	7.8	12	19	17	17	12	15	17	21	18

MW-7A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	1200	1800	1100	610	530	475	410	36	210	1.8J	<1	<5
DCE	4800	2200	2100	1800	1650	1950	2100	580	1706.1	210	65	20
VC	220	100	130	120	125	205	60	60	130	150	50	19
DCA	1000	390	300	280	215	345	350	80	220	49	33	22

MW-3A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
TCE	0.43	0.84	0.58	1.5	0.46	<5	1.1	<5	0.21	<5
DCE	1.5	1.7	1.1	1.3	<5	0.90	1.6	0.9	0.71	<5
VC	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

MW-2A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TCE	<5	<5	4.0	<5	<5	<5	<5	0.91	<5	<5	<1
DCE	1.2	0.46	14	0.63	<5	<5	<5	9.8	0.38	<5	<5
VC	<2	<2	5.5	<2	<2	0.52	<2	1.9	<2	1.3	1.2J
DCA	13	21	14	11	19	25	19	7.1	14	26	18

MW-16A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	NA	4.2	0.77	<10	<10	0.56	0.52	0.39	0.39	<5	<1	<5
DCE	NA	77	42	26	20	21	14	12	9	8.2	10	11
VC	NA	35	44	52	35	180	88	160	53	75	180	340
DCA	NA	<5	<10	<10	<10	<5	<5	<5	<5	<5	<1	<5

MW-17A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	115	58	62	42	57	48	28	38	29	22	15	11
DCE	230	260	300	280	380	320	230	161.9	201.5	181.6	211.4	161.2
VC	18	14	16	20	34	28	19	12	28	25	27	30
DCA	59	75	59	38	45	36	23	19	20	30	20	26

MW-19A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
TCE	1.7	1.3	0.99	0.61	0.26	<5	<5	<5	<5	<5
DCE	33	4.1	5.8	3.2	4.0	5.2	4.3	4.2	3.2	3.7
VC	<2	<2	0.66	0.78	<2	1.6	1.4	4	1.2	2.8
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

MW-12A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	2.6	<5	0.31	<40	0.4	0.54	<10	<5	0.35	<5	<1	<5
DCE	540	270	260	170	230	200	190	151.3	131	64	16	19
VC	49	27	49.5	26	38	34	27	39	23	38	16	16
DCA	5.9	2.2	3.7	<40	3.4	3.4	3.2	3.2	2.2	2.7	1.6J	1.8J

MW-11A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TCE	<5	<5	0.23	<5	<5	<5	<5	<5	<5	<5	<1
DCE	1.3	<5	0.34	<5	<5	<5	<5	<5	<5	<5	<5
VC	<2	0.39	<2	<2	0.59	0.95	1.3	<2	0.7	<2	3.2J
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1

MW-18A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	36	30	53	22	67	52	43	22	25	25	25	23
DCE	47	30	33	26	40	37	36	25.46	31.44	171.5	51	42
VC	4.4	0.98	3.1	1.6	3.2	3.1	2.1	6.7	2.1	7	2.6J	8.4
DCA	5.6	4.9	5.3	3.8	7.3	6.1	5.1	4.1	3.8	4.7	4.2J	4.7J

MW-10A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	<5	<5	<120	<120	<120	0.63	<40	<5	<5	<5	<1	<5
DCE	1200	790	990	655	620	660	540	312	400	409.4	397.6	641
VC	86	80	240	115	120	150	120	67	97	140	140	250
DCA	25	11	15	<120	<120	11	7	4.5	5.8	6.4	5.7	7.7

MW-1A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	2.4	0.78	0.61	0.45	2.0	1.4	<5	<5	<5	<5
VC	0.44	1.4	0.74	0.73	3.0	1.7	0.63	<2	<2	<2
DCA	<5	0.29	<5	<5	<5	<5	<5	<5	<5	<5

MW-5A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	1.3	<5	0.69	0.48	0.88	0.89	10	0.59	0.47	<5	<1	<5
DCE	320	116	32	300	580	300	150	2.6	37.35	5.9	110.77	5.7
VC	42	17	7	120	260	110	48	<2	16	1.8	84	3.3J
DCA	2.1	<5	<5	1.1	2.8	1.4	0.82	<5	<5	<5	<1	<5

MW-14A	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	1.6	0.69	12	0.82	2.3	2.3	1.7	1.6	1.5	1.4
VC	0.37	<2	4.6	<2	3.8	4.6	2.2	2.4	1.6	2.7
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

MW-13A	2001	2002	2003	2004	2005	2006	2007	2008	2009
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	<5	<5	<5	<5	<5	<5	<5	<5	<5
VC	<2	<2	<2	<2	<2	<2	<2	<2	<2
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5

INJ-9
INJ-10
MW-4A
MW-2A
INJ-2
MW-7A
INJ-1
INJ-5U/L
INJ-6U/L
MW-3A
INJ-7
INJ-8
MW-16A
MW-17A
INJ-3
INJ-4
MW-19A
KANTHAL-GLOBAR BUILDING
HYDE PARK BOULEVARD
BRICK BUILDING
MW-18A
MW-12A
MW-11A
MW-10A
MW-5A
MW-1A
MH-1
RHODE ISLAND AVENUE
MH-2
MH-3
~350'
MW-14A
MW-13A
PORTLAND STREET

LEGEND:

- PROPERTY LINE
- FENCE
- BEDROCK WELL
- OVERBURDEN WELL
- MH-1 MANHOLE (SANITARY SEWER SAMPLE LOCATION)

CONCENTRATIONS IN ug/L (ppb)

SAMPLE DATE	
TCE	TRICHLOROETHENE
DCE	CIS- AND TRANS-1,2-DICHLOROETHENE
VC	VINYL CHLORIDE
DCA	1,1-DICHLOROETHANE

SOURCE: INTERA, 2006

HORIZONTAL DATUM: NAD83/96 NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE.
VERTICAL DATUM NAVD 88 DATUM

60 40 20 0 60

SCALE IN FEET

N

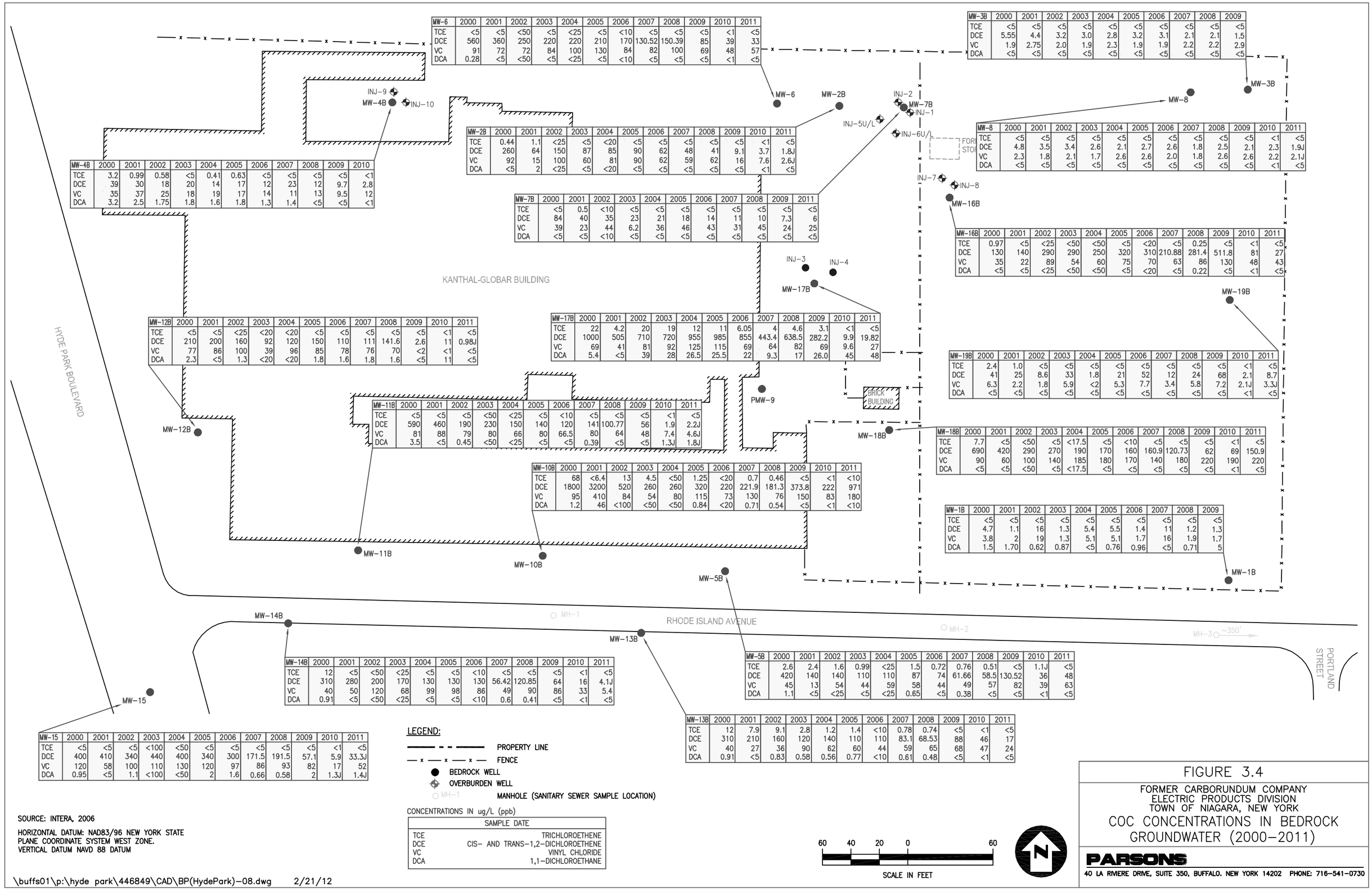
\buffs01\p:\hyde park\446849\CAD\BP(HydePark)-08.dwg 2/21/12

FIGURE 3.3

FORMER CARBORUNDUM COMPANY
ELECTRIC PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK

COC CONCENTRATIONS IN OVERBURDEN GROUNDWATER (2000-2011)

PARSONS
40 LA RIVIERE DRIVE, SUITE 350, BUFFALO, NEW YORK 14202 PHONE: 716-541-0730



MW-6	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	<5	<5	<50	<5	<25	<5	<10	<5	<5	<5	<1	<5
DCE	560	360	250	220	220	210	170	130.52	150.39	85	39	33
VC	91	72	72	84	100	130	84	82	100	69	48	57
DCA	0.28	<5	<50	<5	<25	<5	<10	<5	<5	<5	<1	<5

MW-3B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	5.55	4.4	3.2	3.0	2.8	3.2	3.1	2.1	2.1	1.5
VC	1.9	2.75	2.0	1.9	2.3	1.9	1.9	2.2	2.2	2.9
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

MW-4B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TCE	3.2	0.99	0.58	<5	0.41	0.63	<5	<5	<5	<5	<1
DCE	39	30	18	20	14	17	12	23	12	9.7	2.8
VC	35	37	25	18	19	17	14	11	13	9.5	12
DCA	3.2	2.5	1.75	1.8	1.6	1.8	1.3	1.4	<5	<5	<1

MW-2B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	0.44	1.1	<25	<5	<20	<5	<5	<5	<5	<5	<1	<5
DCE	260	64	150	87	85	90	62	48	41	9.1	3.7	1.8J
VC	92	15	100	60	81	90	62	59	62	16	7.6	2.6J
DCA	<5	2	<25	<5	<20	<5	<5	<5	<5	<5	<1	<5

MW-8	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<5
DCE	4.8	3.5	3.4	2.6	2.1	2.7	2.6	1.8	2.5	2.1	2.3	1.9J
VC	2.3	1.8	2.1	1.7	2.6	2.6	2.0	1.8	2.6	2.6	2.2	2.1J
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<5

MW-7B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2011
TCE	<5	0.5	<10	<5	<5	<5	<5	<5	<5	<5	<5
DCE	84	40	35	23	21	18	14	11	10	7.3	6
VC	39	23	44	6.2	36	46	43	31	45	24	25
DCA	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5

MW-16B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	0.97	<5	<25	<50	<50	<5	<20	<5	0.25	<5	<1	<5
DCE	130	140	290	290	250	320	310	210.88	281.4	511.8	81	27
VC	35	22	89	54	60	75	70	63	86	130	48	43
DCA	<5	<5	<25	<50	<50	<5	<20	<5	0.22	<5	<1	<5

MW-12B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	<5	<5	<25	<20	<20	<5	<5	<5	<5	<5	<1	<5
DCE	210	200	160	92	120	150	110	111	141.6	2.6	11	0.98J
VC	77	86	100	39	96	85	78	76	70	<2	<1	<5
DCA	2.3	<5	1.3	<20	<20	1.8	1.6	1.8	1.6	<5	11	<5

MW-17B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	22	4.2	20	19	12	11	6.05	4	4.6	3.1	<1	<5
DCE	1000	505	710	720	955	985	855	443.4	638.5	282.2	9.9	19.82
VC	69	41	81	92	125	115	69	64	82	69	9.6	27
DCA	5.4	<5	39	28	26.5	25.5	22	9.3	17	26.0	45	48

MW-19B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	2.4	1.0	<5	<5	<5	<5	<5	<5	<5	<5	<1	<5
DCE	41	25	8.6	33	1.8	21	52	12	24	68	2.1	8.7
VC	6.3	2.2	1.8	5.9	<2	5.3	7.7	3.4	5.8	7.2	2.1J	3.3J
DCA	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<5

MW-11B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	<5	<5	<5	<50	<25	<5	<10	<5	<5	<5	<1	<5
DCE	590	460	190	230	150	140	120	141	100.77	56	1.9	2.2J
VC	81	88	79	80	66	80	66.5	80	64	48	7.4	4.6J
DCA	3.5	<5	0.45	<50	<25	<5	<5	0.39	<5	<5	1.3J	1.8J

MW-18B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	7.7	<5	<50	<5	<17.5	<5	<10	<5	<5	<5	<1	<5
DCE	690	420	290	270	190	170	160	160.9	120.73	62	69	150.9
VC	90	60	100	140	185	180	170	140	180	220	190	220
DCA	<5	<5	<50	<5	<17.5	<5	<5	<5	<5	<5	<1	<5

MW-10B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	68	<6.4	13	4.5	<50	1.25	<20	0.7	0.46	<5	<1	<10
DCE	1800	3200	520	260	260	320	220	221.9	181.3	373.8	222	971
VC	95	410	84	54	80	115	73	130	76	150	83	180
DCA	1.2	46	<100	<50	<50	0.84	<20	0.71	0.54	<5	<1	<10

MW-1B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
TCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
DCE	4.7	1.1	16	1.3	5.4	5.5	1.4	11	1.2	1.3
VC	3.8	2	19	1.3	5.1	5.1	1.7	16	1.9	1.7
DCA	1.5	1.70	0.62	0.87	<5	0.76	0.96	<5	0.71	5

MW-14B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	12	<5	<50	<25	<5	<5	<10	<5	<5	<5	<1	<5
DCE	310	280	200	170	130	130	130	56.42	120.85	64	16	4.1J
VC	40	50	120	68	99	98	86	49	90	86	33	5.4
DCA	0.91	<5	<50	<25	<5	<5	<10	0.6	0.41	<5	<1	<5

MW-5B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	2.6	2.4	1.6	0.99	<25	1.5	0.72	0.76	0.51	<5	1.1J	<5
DCE	420	140	140	110	110	87	74	61.66	58.5	130.52	36	48
VC	45	13	54	44	59	58	44	49	57	82	39	63
DCA	1.1	<5	<25	<5	<25	0.65	<5	0.38	<5	<5	<1	<5

MW-13B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	12	7.9	9.1	2.8	1.2	1.4	<10	0.78	0.74	<5	<1	<5
DCE	310	210	160	120	140	110	110	83.1	68.53	88	46	17
VC	40	27	36	90	62	60	44	59	65	68	47	24
DCA	0.91	<5	0.83	0.58	0.56	0.77	<10	0.61	0.48	<5	<1	<5

MW-15	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
TCE	<5	<5	<5	<100	<50	<5	<5	<5	<5	<5	<1	<5
DCE	400	410	340	440	400	340	300	171.5	191.5	57.1	5.9	33.3J
VC	120	58	100	110	130	120	97	86	93	82	17	52
DCA	0.95	<5	1.1	<100	<50	2	1.6	0.66	0.58	2	1.3J	1.4J

LEGEND:

- PROPERTY LINE
- FENCE
- BEDROCK WELL
- OVERBURDEN WELL
- MH-1 MANHOLE (SANITARY SEWER SAMPLE LOCATION)

CONCENTRATIONS IN ug/L (ppb)

SAMPLE DATE	
TCE	TRICHLOROETHENE
DCE	CIS- AND TRANS-1,2-DICHLOROETHENE
VC	VINYL CHLORIDE
DCA	1,1-DICHLOROETHANE

SOURCE: INTERA, 2006

HORIZONTAL DATUM: NAD83/96 NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE.
VERTICAL DATUM NAVD 88 DATUM

60 40 20 0 60

SCALE IN FEET

FIGURE 3.4

FORMER CARBORUNDUM COMPANY
ELECTRIC PRODUCTS DIVISION
TOWN OF NIAGARA, NEW YORK

COC CONCENTRATIONS IN BEDROCK GROUNDWATER (2000-2011)

PARSONS
40 LA RIVIERE DRIVE, SUITE 350, BUFFALO, NEW YORK 14202 PHONE: 716-541-0730

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TABLE 3.1
WATER LEVEL MEASUREMENTS
(OCTOBER 2011)

Well No.	Elevation TOC	Easting	Northing	10/28/11	
				Water Level	GW Elevation
PMW-1	596.61	1028372.29	1136886.28	8.35	588.26
PMW-2	595.97	1028371.75	1136875.46	7.62	588.345
PMW-3	595.92	1028381.51	1136882.58	7.51	588.407
PMW-4	597.04	1028384.66	1136909.81	8.42	588.618
PMW-5	592.77	1028308.68	1136764.78	4.59	588.18
PMW-6	592.75	1028310.43	1136747.75	4.75	588
PMW-7	593.14	1028325.48	1136758.01	5.09	588.05
PMW-8	593.10	1028352.65	1136824.49	5.02	588.08
PMW-9	592.69	1028282.56	1136689.23	4.44	588.25
INJ-1	596.03	1028382.49	1136887.35	7.81	588.222
INJ-2	595.88	1028374.60	1136890.67	7.69	588.185
INJ-3	592.87	1028313.26	1136774.58	3.56	589.31
INJ-4	593.26	1028332.70	1136771.36	5.11	588.15
INJ-5U	596.08	1028365.66	1136878.92	7.03	589.05
INJ-5L	596.00	1028365.66	1136878.92	7.84	588.16
INJ-6U	596.96	1028376.98	1136868.99	3.95	593.01
INJ-6L	595.97	1028376.98	1136868.99	7.80	588.17
INJ-7	592.76	1028409.44	1136837.46	17.48	575.28
INJ-8	592.98	1028418.16	1136832.59	4.43	588.55
INJ-9	591.62	1028023.50	1136898.15	3.66	587.96
INJ-10	591.49	1028032.17	1136890.90	3.53	587.96
MW-1A	597.56	1028606.44	1136554.99	8.82	588.74
MW-1B	597.64	1028611.01	1136554.66	8.93	588.71
MW-2A	595.73	1028335.27	1136881.61	6.05	589.68
MW-2B	595.80	1028337.08	1136888.34	7.68	588.12
MW-3A	599.94	1028627.22	1136895.86	9.93	590.01
MW-3B	599.70	1028624.57	1136899.80	11.20	588.5
MW-4A	591.60	1028027.77	1136890.77	3.60	588
MW-4B	591.49	1028023.72	1136890.65	3.48	588.01
MW-5A	597.91	1028256.93	1136567.66	10.15	587.76
MW-5B	597.79	1028256.86	1136562.36	9.82	587.97
MW-6	595.51	1028293.24	1136889.98	7.44	588.07
MW-7A	596.59	1028377.01	1136884.31	7.81	588.78
MW-7B	596.66	1028379.67	1136889.32	8.16	588.5
MW-8	599.63	1028584.29	1136897.91	10.85	588.78

TABLE 3.1
WATER LEVEL MEASUREMENTS
(OCTOBER 2011)

Well No.	Elevation TOC	Easting	Northing	10/28/11	
				Water Level	GW Elevation
MW-10A	596.87	1028134.19	1136571.96	9.25	587.62
MW-10B	596.71	1028129.79	1136571.87	8.74	587.97
MW-11A	595.48	1027992.43	1136576.28	8.39	587.09
MW-11B	595.57	1027996.44	1136575.70	8.31	587.26
MW-12A	590.79	1027887.31	1136654.88	4.46	586.33
MW-12B	590.89	1027886.62	1136658.22	2.90	587.99
MW-13A	595.18	1028202.92	1136517.75	7.63	587.55
MW-13B	594.73	1028199.59	1136517.64	7.19	587.54
MW-14A	592.97	1027954.11	1136524.76	7.61	585.36
MW-14B	592.85	1027951.16	1136524.55	5.10	587.75
MW-15*	591.44	1027851.99	1136475.97	4.22	587.22
MW-16A	591.64	1028415.02	1136829.41	18.80	572.84
MW-16B	592.38	1028414.66	1136826.44	3.82	588.56
MW-17A	593.11	1028319.95	1136765.12	4.30	588.81
MW-17B	592.90	1028319.47	1136763.38	4.85	588.05
MW-18A	593.78	1028377.39	1136661.13	5.07	588.71
MW-18B	593.43	1028375.07	1136659.79	5.38	588.05
MW-19A	594.95	1028610.90	1136747.47	6.70	588.25
MW-19B	594.65	1028611.64	1136749.89	5.91	588.74

*extrapolated value from 10/21/11 measurement

Table 3.2
Field Measured Parameters
Fall 2011 Monitoring Event
Former Carborundum Company, Hyde Park Facility

Well ID	Sample Date	pH (pH Units)	Conductivity (mS/cm)	Temperature (^{o}C)	Eh (mV)	DO (mg/L)	Turbidity (NTU)
MW-2B	20-Oct-11	7.40	1.290	13.23	-275	0.0	0.0
MW-4A	25-Oct-11	7.38	0.996	15.12	-57	0.0	56.60
MW-5A	21-Oct-11	8.29	1.100	15.57	-46	1.54	0.0
MW-5B	21-Oct-11	7.40	1.360	13.70	-125	0.0	0.00
MW-6	20-Oct-11	7.37	1.230	13.18	-247	0.0	0.0
MW-7A	27-Oct-11	7.62	1.040	12.62	-325	0.0	8.6
MW-7B	26-Oct-11	7.39	0.047	12.53	-310	0.0	0.0
MW-8	20-Oct-11	7.37	1.230	13.18	-247	0.0	0.0
MW-10A	25-Oct-11	7.07	3.030	16.51	-91	0.0	99.00
MW-10B	26-Oct-11	6.92	1.460	13.84	-147	0.0	0.00
MW-11B	26-Oct-11	7.51	1.180	14.20	-328	0.0	0.00
MW-12A	20-Oct-11	7.90	0.944	13.02	-204	0.0	0.00
MW-12B	20-Oct-11	8.32	0.300	13.38	64	1.7	0.0
MW-13B	21-Oct-11	7.35	2.240	13.40	-45	0.0	230
MW-14B	24-Oct-11	7.73	1.020	14.24	-269	0.0	9.5
MW-15	21-Oct-11	7.55	1.220	14.62	-311	0.0	0.00
MW-16A	27-Oct-11	7.49	3.220	12.84	-2	0.00	4.9
MW-16B	25-Oct-11	7.18	1.120	15.20	-186	0.0	21.4
MW-17A	24-Oct-11	7.58	2.930	16.59	-108	0.0	16.0
MW-17B	26-Oct-11	7.18	3.820	14.38	-311	0.0	0.0
MW-18A	24-Oct-11	7.65	0.836	16.38	-108	0.0	0.00
MW-18B	25-Oct-11	7.05	1.140	13.72	-122	0.0	0.00
MW-19B	20-Oct-11	7.92	1.120	14.27	-283	0.0	0.0

TABLE 3.3
Analytical Summary Table
2011 Annual Sampling Event

Analytical Summary Table for Chemicals of Concern Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated: UNITS:	Overburden Wells MW- 4A MW-4A_102511 6449973 LANCASTERLABS/MI BPP78/074IJ WATER 10/25/2011 11:35 1/9/2012	MW- 5A MW-5A_10/21/2011 6446881 LANCASTERLABS BPP76 WATER 10/21/2011 14:20 1/9/2012	MW- 7A MW-7A_102711 6453130 LANCASTERLABS/MI BPP80/074IJ WATER 10/27/2011 15:20 1/9/2012	MW-10A MW-10A_102511 6449975 LANCASTERLABS BPP78 WATER 10/25/2011 15:00 1/9/2012
CAS NO.	COMPOUND						
CHEMICALS OF CONCERN							
	VOLATILES-8260B						
75-34-3	1,1-DICHLOROETHANE	5	ug/l	18	5 U	22	7.7
75-35-4	1,1-DICHLOROETHENE	5	ug/l	3.8 J	5 U	5 U	1.2 J
75-00-3	CHLOROETHANE	5	ug/l	5 U	5 U	13	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	5	ug/l	150	5.7	20	630
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/l	8.1	5 U	5 U	11
79-01-6	TRICHLOROETHYLENE (TCE)	5	ug/l	160	5 U	5 U	5 U
75-01-4	VINYL CHLORIDE	2	ug/l	73	3.3 J	19	250
NATURAL ATTENUATION PARAMETERS							
	HYDROCARBON GASES-RSK 175M						
74-85-1	ETHENE	--	ug/l	12	1.5 J	25	29
74-84-0	ETHANE	--	ug/l	5 U	5 U	57	5 U
74-82-8	METHANE	--	ug/l	170	9.6 J	20000	66
74-98-6	PROPANE	--	ug/l	5 U	5 U		5 U
	METALS						
7429-90-5	ALUMINUM	--	mg/l	0.2 U	0.2 U	0.2 U	0.2 U
7440-38-2	ARSENIC	0.050	mg/l	0.02 U	0.02 U	0.02 U	0.02 U
7440-70-2	CALCIUM	--	mg/l	121	35	173	228
7439-89-6	IRON	0.600	mg/l	0.0146 J	0.0265 J	0.115 J	0.0808 J
7439-95-4	MAGNESIUM	35	mg/l	51.8	10.1	58	83.2
7439-96-5	MANGANESE	0.600	mg/l	0.0842	0.005 U	0.0647	0.179
7440-23-5	SODIUM	--	mg/l	60.9	220	38.3	282
	GENERAL CHEMISTRY						
BOD	BIOCHEMICAL OXYGEN DEMAND	--	mg/l	3.1 U	3.1 U		2.8 U
16887-00-6	CHLORIDE	250	mg/l	95.9 J	204	28.7	770 J
COD	CHEMICAL OXYGEN DEMAND	--	mg/l	50 U	50 U		27 J
DOC	DISSOLVED ORGANIC CARBON	--	mg/l	1.6	1 U	24	1.2
14797-55-8	NITRATE NITROGEN	10	mg/l	0.1 U	0.75		0.1 U
14797-65-0	NITRITE NITROGEN	10	mg/l	0.05 U	0.05 U		0.05 U
14808-79-8	SULFATE	250	mg/l	263 J	164	57.1	254 J
18496-25-8	SULFIDE	50 (G)	mg/l	0.16 U	0.16 U		0.16 U
TOC	TOTAL ORGANIC CARBON	--	mg/l	2.1	1.5	25.1	1.9
	GENE ANALYSIS						
BVC	BVC	--	cells/mL	0.5 U		73.8	
DHB	DHB	--	cells/mL	8.8		258	
DHC	DHC	--	cells/mL	0.3 J		298	
TCE	TCE	--	cells/mL	0.5 U		226	
VCR	VCR	--	cells/mL	0.6		1070	

Notes:
(1) NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values (June 1998).
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TABLE 3.3
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Analytical Summary Table for Chemicals of Concern Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated: UNITS:	Overburden Wells MW-12A MW-12A_10/20/2011 6445744 LANCASTERLABS BPP75 WATER 10/20/2011 15:40 1/9/2012	MW-16A MW-16A_102711 6453118 LANCASTERLABS/MI BPP80/074IJ WATER 10/27/2011 13:50 1/9/2012	MW-17A MW-17A_10/24/2011 6448121 LANCASTERLABS BPP77 WATER 10/24/2011 12:45 1/9/2012	MW-18A MW-18A_10/24/2011 6448122 LANCASTERLABS BPP77 WATER 10/24/2011 13:55 1/9/2012
CAS NO.	COMPOUND						
CHEMICALS OF CONCERN							
	VOLATILES-8260B						
75-34-3	1,1-DICHLOROETHANE	5	ug/l	1.8 J	5 U	26	4.7 J
75-35-4	1,1-DICHLOROETHENE	5	ug/l	5 U	5 U	12	0.9 J
75-00-3	CHLOROETHANE	5	ug/l	5 U	5 U	5 U	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	5	ug/l	19	11	160	42
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/l	5 U	5 U	1.2 J	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	5	ug/l	5 U	5 U	11	23
75-01-4	VINYL CHLORIDE	2	ug/l	16	340	30	8.4
NATURAL ATTENUATION PARAMETERS							
	HYDROCARBON GASES-RSK 175M						
74-85-1	ETHENE	--	ug/l		44	3.2 J	5 U
74-84-0	ETHANE	--	ug/l		5 U	11	5 U
74-82-8	METHANE	--	ug/l		33	4900	19
74-98-6	PROPANE	--	ug/l		5 U	5 U	5 U
	METALS						
7429-90-5	ALUMINUM	--	mg/l		0.0875 J	0.2 U	0.2 U
7440-38-2	ARSENIC	0.050	mg/l		0.02 U	0.02 U	0.0055 J
7440-70-2	CALCIUM	--	mg/l		344	130	123
7439-89-6	IRON	0.600	mg/l		0.0424 J	0.2 U	0.0478 J
7439-95-4	MAGNESIUM	35	mg/l		151	36.1	43.2
7439-96-5	MANGANESE	0.600	mg/l		2.24	0.0626	0.0664
7440-23-5	SODIUM	--	mg/l		184	426	29.4
	GENERAL CHEMISTRY						
BOD	BIOCHEMICAL OXYGEN DEMAND	--	mg/l			5.1	2.1 U
16887-00-6	CHLORIDE	250	mg/l		266	1010	293
COD	CHEMICAL OXYGEN DEMAND	--	mg/l		31.5 J	33.8 J	50 U
DOC	DISSOLVED ORGANIC CARBON	--	mg/l		6.9	3	1.8
14797-55-8	NITRATE NITROGEN	10	mg/l		0.1 U	0.1 U	0.1 U
14797-65-0	NITRITE NITROGEN	10	mg/l		0.05 UJ	0.05 U	0.05 U
14808-79-8	SULFATE	250	mg/l		1130	189	156
18496-25-8	SULFIDE	50 (G)	mg/l		0.16 U	0.16 U	0.16 U
TOC	TOTAL ORGANIC CARBON	--	mg/l		6.9	3.9	1.8
	GENE ANALYSIS						
BVC	BVC	--	cells/mL		0.5 U		
DHB	DHB	--	cells/mL		1220		
DHC	DHC	--	cells/mL		0.5 U		
TCE	TCE	--	cells/mL		0.5 U		
VCR	VCR	--	cells/mL		0.5 U		

Notes:
(1) NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values (June 1998).
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CAS NO.	COMPOUND							
CHEMICALS OF CONCERN								
	VOLATILES-8260B							
75-34-3	1,1-DICHLOROETHANE	5	ug/l	5 U	5 U	5 U	5 U	5 U
75-35-4	1,1-DICHLOROETHENE	5	ug/l	5 U	5 U	5 U	5 U	5 U
75-00-3	CHLOROETHANE	5	ug/l	5 U	5 U	5 U	5 U	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	5	ug/l	1.8 J	48	33	6	1.9 J
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/l	5 U	5 U	5 U	5 U	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	5	ug/l	5 U	5 U	5 U	5 U	5 U
75-01-4	VINYL CHLORIDE	2	ug/l	2.6 J	63	57	25	2.1 J
NATURAL ATTENUATION PARAMETERS								
	HYDROCARBON GASES-RSK 175M							
74-85-1	ETHENE	--	ug/l		5 U		3.6 J	
74-84-0	ETHANE	--	ug/l		5 U		5 U	
74-82-8	METHANE	--	ug/l		72		3400	
74-98-6	PROPANE	--	ug/l		5 U			
	METALS							
7429-90-5	ALUMINUM	--	mg/l		0.2 U		0.2 U	
7440-38-2	ARSENIC	0.050	mg/l		0.02 U		0.02 U	
7440-70-2	CALCIUM	--	mg/l		157		133	
7439-89-6	IRON	0.600	mg/l		0.0196 J		0.0747 J	
7439-95-4	MAGNESIUM	35	mg/l		59.4		48.7	
7439-96-5	MANGANESE	0.600	mg/l		0.0936 J		0.102	
7440-23-5	SODIUM	--	mg/l		57.8		91.5	
	GENERAL CHEMISTRY							
BOD	BIOCHEMICAL OXYGEN DEMAND	--	mg/l		2.5 U			
16887-00-6	CHLORIDE	250	mg/l		130		168	
COD	CHEMICAL OXYGEN DEMAND	--	mg/l		17.9 J			
DOC	DISSOLVED ORGANIC CARBON	--	mg/l		4.5		5	
14797-55-8	NITRATE NITROGEN	10	mg/l		0.1 U			
14797-65-0	NITRITE NITROGEN	10	mg/l		0.05 U			
14808-79-8	SULFATE	250	mg/l		358		218 J	
18496-25-8	SULFIDE	50 (G)	mg/l		0.16 U			
TOC	TOTAL ORGANIC CARBON	--	mg/l		4.9		8.4	
	GENE ANALYSIS							
BVC	BVC	--	cells/mL					
DHB	DHB	--	cells/mL					
DHC	DHC	--	cells/mL					
TCE	TCE	--	cells/mL					
VCR	VCR	--	cells/mL					

Notes:
(1) NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values (June 1998).
(2) -- indicates no standard or guidance value is available.
(3) (G) indicates guidance value.
(4) ND indicated compound was not detected.
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Analytical Summary Table for Chemicals of Concern Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]	Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated: UNITS:	**Bedrock Wells** MW-10B MW-10B_102611 6451585 LANCASTERLABS BPP79 WATER 10/26/2011 12:30 1/9/2012	MW-11B MW-11B_102611 6451584 LANCASTERLABS BPP79 WATER 10/26/2011 13:15 1/9/2012	MW-12B MW-12B_10/20/2011 6445745 LANCASTERLABS BPP75 WATER 10/20/2011 16:20 1/9/2012	MW-13B MW-13B_10/21/2011 6446879 LANCASTERLABS BPP76 WATER 10/21/2011 10:50 1/9/2012	MW-14B MW-14B_10/24/2011 6448123 LANCASTERLABS BPP77 WATER 10/24/2011 15:10 1/9/2012
CAS NO.	COMPOUND							
CHEMICALS OF CONCERN								
	VOLATILES-8260B							
75-34-3	1,1-DICHLOROETHANE	5	ug/l	10 U	1.8 J	5 U	5 U	5 U
75-35-4	1,1-DICHLOROETHENE	5	ug/l	1.8 J	5 U	5 U	5 U	5 U
75-00-3	CHLOROETHANE	5	ug/l	10 U	5 U	5 U	5 U	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	5	ug/l	960	2.2 J	0.98 J	17	4.1 J
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/l	11	5 U	5 U	5 U	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	5	ug/l	10 U	5 U	5 U	5 U	5 U
75-01-4	VINYL CHLORIDE	2	ug/l	180	4.6 J	5 U	24	5.4
NATURAL ATTENUATION PARAMETERS								
	HYDROCARBON GASES-RSK 175M							
74-85-1	ETHENE	--	ug/l	24	90			66
74-84-0	ETHANE	--	ug/l	2.7 J	5 U			5 U
74-82-8	METHANE	--	ug/l	300	1500			690
74-98-6	PROPANE	--	ug/l	2.7 J	5 U			5 U
	METALS							
7429-90-5	ALUMINUM	--	mg/l	0.2 U	0.2 U			0.2 U
7440-38-2	ARSENIC	0.050	mg/l	0.02 U	0.02 U			0.0062 J
7440-70-2	CALCIUM	--	mg/l	156	134			117
7439-89-6	IRON	0.600	mg/l	0.0459 J	0.0859 J			0.0264 J
7439-95-4	MAGNESIUM	35	mg/l	57.3	49.7			36.6
7439-96-5	MANGANESE	0.600	mg/l	0.0634	0.0647			0.0439
7440-23-5	SODIUM	--	mg/l	75.9	82.9			96.5
	GENERAL CHEMISTRY							
BOD	BIOCHEMICAL OXYGEN DEMAND	--	mg/l	3.5 U	8.9			5.2 U
16887-00-6	CHLORIDE	250	mg/l	189	157			260
COD	CHEMICAL OXYGEN DEMAND	--	mg/l	13.4 J	31.5 J			36 J
DOC	DISSOLVED ORGANIC CARBON	--	mg/l	3.1	3.2			6.9
14797-55-8	NITRATE NITROGEN	10	mg/l	0.1 U	0.043 J			0.1 U
14797-65-0	NITRITE NITROGEN	10	mg/l	0.05 U	0.05 U			0.05 U
14808-79-8	SULFATE	250	mg/l	259 J	245 J			274
18496-25-8	SULFIDE	50 (G)	mg/l	0.16 U	8.5			3
TOC	TOTAL ORGANIC CARBON	--	mg/l	3.4	3.8			7
	GENE ANALYSIS							
BVC	BVC	--	cells/mL					
DHB	DHB	--	cells/mL					
DHC	DHC	--	cells/mL					
TCE	TCE	--	cells/mL					
VCR	VCR	--	cells/mL					

Notes:
(1) NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values (June 1998).
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Analytical Summary Table for Chemicals of Concern Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary		NYSDEC Class GA Groundwater Standards/Guidance Values [1]		Bedrock Wells					
							Dup of MW-17B		
			Location ID:	MW-15	MW-16B	MW-17B	MW-34B	MW-18B	MW-19B
			Sample ID:	MW-15_10/21/2011	MW-16B_102511	MW-17B_102611	MW-34B_102611	MW-18B_102511	MW-19B_10/20/2011
			Lab Sample Id:	6446880	6449974	6451586	6451587	6449972	6445743
			Source:	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS/MI	LANCASTERLABS
			SDG:	BPP76	BPP78	BPP79	BPP79	BPP78/074IJ	BPP75
			Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
			Sampled:	10/21/2011 11:40	10/25/2011 13:30	10/26/2011 11:50	10/26/2011 13:10	10/25/2011 9:30	10/20/2011 14:30
			Validated:	1/9/2012	1/9/2012	1/9/2012	1/9/2012	1/9/2012	1/9/2012
CAS NO.	COMPOUND		UNITS:						
CHEMICALS OF CONCERN									
	VOLATILES-8260B								
75-34-3	1,1-DICHLOROETHANE	5	ug/l	1.4 J	5 U	48	49	5 U	5 U
75-35-4	1,1-DICHLOROETHENE	5	ug/l	5 U	5 U	5 U	5 U	5 U	5 U
75-00-3	CHLOROETHANE	5	ug/l	5 U	5 U	1.4 J	1.4 J	5 U	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	5	ug/l	32	27	19	19	150	8.7
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/l	1.3 J	5 U	0.82 J	0.88 J	0.9 J	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	5	ug/l	5 U	5 U	5 U	5 U	5 U	5 U
75-01-4	VINYL CHLORIDE	2	ug/l	52	43	27	27	220	3.3 J
NATURAL ATTENUATION PARAMETERS									
	HYDROCARBON GASES-RSK 175M								
74-85-1	ETHENE	--	ug/l		3.8 J	81	88	4 J	
74-84-0	ETHANE	--	ug/l		5 U	70	77	5 U	
74-82-8	METHANE	--	ug/l		140	15000	14000	120	
74-98-6	PROPANE	--	ug/l		5 U	5 U	5 U	5 U	
	METALS								
7429-90-5	ALUMINUM	--	mg/l		0.2 U	0.2 U	0.2 U	0.2 U	
7440-38-2	ARSENIC	0.050	mg/l		0.02 U	0.02 U	0.02 U	0.02 U	
7440-70-2	CALCIUM	--	mg/l		150	194	193	159	
7439-89-6	IRON	0.600	mg/l		0.2 U	0.102 J	0.0925 J	0.0657 J	
7439-95-4	MAGNESIUM	35	mg/l		56	57.5	57.4	59.1	
7439-96-5	MANGANESE	0.600	mg/l		0.072	0.0933	0.0932	0.0883	
7440-23-5	SODIUM	--	mg/l		76.5	430	429	64.4	
	GENERAL CHEMISTRY								
BOD	BIOCHEMICAL OXYGEN DEMAND	--	mg/l		2.6 U	5.7	7	2.4 U	
16887-00-6	CHLORIDE	250	mg/l		134 J	966	944	114 J	
COD	CHEMICAL OXYGEN DEMAND	--	mg/l		50 U	45.1 J	49.6 J	50 U	
DOC	DISSOLVED ORGANIC CARBON	--	mg/l		4	2.9	3.1	4.1	
14797-55-8	NITRATE NITROGEN	10	mg/l		0.1 U	0.1 U	0.1 U	0.1 U	
14797-65-0	NITRITE NITROGEN	10	mg/l		0.05 U	0.05 U	0.05 U	0.05 U	
14808-79-8	SULFATE	250	mg/l		303 J	154 J	152 J	305 J	
18496-25-8	SULFIDE	50 (G)	mg/l		0.38	4.5	4.6	0.16 U	
TOC	TOTAL ORGANIC CARBON	--	mg/l		3.5	3.2	3.4	3.9	
	GENE ANALYSIS								
BVC	BVC	--	cells/mL					1	
DHB	DHB	--	cells/mL					49.2	
DHC	DHC	--	cells/mL					78.6	
TCE	TCE	--	cells/mL					12.8	
VCR	VCR	--	cells/mL					488	

Notes:
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(5) J indicates an estimated concentration.
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SECTION 4
SUMMARY AND CONLUSIONS

The following summary and conclusions were developed for the Fall 2011 groundwater sampling event:

- In general, there has been a steady decline in COC concentrations in the overburden and bedrock groundwater over the past 10 years, with some substantial declines related to the 2008 and 2009 bioremediation pilot tests.
- Overburden groundwater COC concentrations were generally consistent with the previous monitoring program results. A notable decrease was observed in MW-7A. MW-7A is in the area of the vegetable oil substrate injections conducted in September 2008 and November 2009, as part of two bioremediation pilot tests. MW-4A exhibited an increasing TCE trend. This area was part of the follow-up injection program completed after this annual sampling event.
- Bedrock groundwater COC concentrations were also generally consistent with results from previous rounds of monitoring, with additional declines related to the pilot tests. The higher concentrations of COCs were observed in MW-10B. Subsequent data from this well will be evaluated to determine whether an increasing trend is occurring. TCE was non-detect in all wells.
- Groundwater samples for natural attenuation monitoring have been collected since October 2000. The results for 2011 were generally consistent with previous monitoring events.
- Groundwater flow directions were found to be consistent with former groundwater monitoring results. Groundwater in the overburden and the bedrock is generally westerly to southwesterly, with some minor variations.

SECTION 5
REFERENCES

NYSDEC. 1998. Division of Water Technical Guidance Series (1.1.1). Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. New York State Department of Environmental Conservation. June 1998.

DE&S 2000a. Groundwater Monitoring Work Plan for the Former Carborundum Company – Electric Products Division, Hyde Park Facility, Town of Niagara, Niagara County, New York, Site No. 932036, Final Document. Duke Engineering & Services, January 2000.

NYSDEC 2005. Letter to Mr. William Barber (BP) from Michael Hinton (NYSDEC) re: Carborundum Globar Site No. 932036, Town of Niagara, Niagara County, New York. Summary Report for the Fifth Year of the Groundwater Monitoring Program. NYSDEC, September 28, 2005.

Parsons, 2009. Enhanced Bioremediation Pilot Test (Overburden) Results Data Delivery, Former Carborundum Company (Hyde Park Facility), July 30, 2009.

Parsons, 2011. Letter to NYSDEC regarding modifications to the Fall 2011 monitoring event. July 6, 2011.

APPENDIX A
DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT

HYDE PARK FACILITY

Prepared For:

Atlantic Richfield Company

4850 East 49th Street
MBC 3-147
Cuyahoga Heights, Ohio 44125

Prepared By:

PARSONS

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Buffalo, New York 14202
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FEBRUARY 2012

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LIST OF ATTACHMENTS

SECTION 1

DATA USABILITY SUMMARY

Groundwater samples were collected from the Hyde Park site in Niagara Falls, New York from October 20, 2011 through November 7, 2011. Analytical results from these samples were reviewed by Parsons for usability with respect to the following requirements: Work Plan; NYSDEC Analytical Services Protocol (ASP); and USEPA Region II Standard Operating Procedures (SOPs).

The analytical laboratories for this project were Lancaster Laboratories, Inc. (LLI) and Microbial Insights (MI) (microbe gene analysis). LLI is approved to conduct project analyses through the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP). The gene analysis results and associated data were reviewed, but not formally validated.

1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 40 days on average for the Hyde Park samples. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report.

1.2 SAMPLING AND CHAIN-OF-CUSTODY

The samples were collected, properly preserved, shipped under a COC record, and received at the laboratory within one day of sampling. All samples were received intact and in good condition at LLI and MI.

1.3 LABORATORY ANALYTICAL METHODS

The groundwater samples were analyzed for volatile organic compounds (VOCs) including selected chlorinated compounds and methane, ethane, ethane, and propane; dissolved metals; chloride; bromide; sulfate; sulfide; nitrate; nitrite; total organic carbon (TOC); dissolved organic carbon (DOC); biochemical oxygen demand (BOD); and chemical oxygen demand (COD). Summaries of the data review for these laboratory analyses are presented in Subsections 1.3.1 through 1.3.3. The data qualifications resulting from the data review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented in Attachment A.

1.3.1 Volatile Organic Analysis Including Methane, Ethane, Ethene, and Propane

The groundwater samples were analyzed for VOCs using the USEPA SW-846 8260B analytical method and methane, ethane, ethane, and/or propane (MEEP) using the USEPA approved RSK 175 analytical method. The reported results for these samples did not require qualification resulting from data validation. The reported VOC and MEEP analytical results were 100% complete (i.e., usable) for the groundwater data presented by LLI. PARCC requirements were met.

1.3.2 Dissolved Metals Analysis

Certain groundwater samples were analyzed for dissolved metals using the USEPA SW-846 6010B analytical method. Certain reported results for the metals samples were qualified as estimated based upon instrument calibrations. The reported metals analytical results were 100% complete (i.e., usable) for the groundwater data presented by LLI. PARCC requirements were met.

1.3.3 Other Parameters

Selected groundwater samples were analyzed for chloride, bromide, and sulfate using the USEPA 300.0 analytical method; sulfide using the SM20 4500 S2 analytical method; BOD using the SM20 5210B analytical method; COD using the USEPA 410.4 analytical method; nitrate and nitrite using the USEPA 353.2 analytical method; and TOC and DOC using the SM20 5310C analytical method.

Custody documentation, analytical holding times, laboratory blanks, matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy, laboratory duplicate precision, laboratory control sample accuracy, instrument calibrations, quantitation limits, sample result identification, and field duplicate precision were reviewed for compliance. The reported results for these parameters did not require qualification resulting from data validation with the exception of the following:

- The positive bromide, chloride, and sulfate results associated with samples collected on 10/25/11; and the positive bromide and sulfate results associated with samples collected on 10/26/11 were considered estimated, possibly biased high, and qualified "J" based upon matrix spike recoveries for bromide (126%R, 114%R), chloride (124%R), and sulfate (130%R, 117%R) exceeding the 90-110%R QC limit.
- The COD results for samples collected on 10/27/11 were considered estimated with positive results qualified "J" and nondetected results qualified "UJ" based upon a laboratory duplicate precision exceedance for COD (35%RPD; QC limit 0-20%RPD).
- The nitrite results for samples collected on 10/27/11 and the sulfate results for samples collected on 11/7/11 were considered estimated, possibly biased low, with positive results qualified "J" and nondetected results qualified "UJ" based upon low matrix spike recoveries for nitrite (58%R; QC limit 90-110%R) and sulfate (85%R; 90-110%R).

The reported analytical results for the wet chemistry parameters were 100% complete (i.e., usable) for the groundwater data presented by LLI. PARCC requirements were met.

SECTION 2

DATA VALIDATION REPORT

2.1 GROUNDWATER

Data review has been completed for data packages generated by LLI and MI containing groundwater samples collected from the Hyde Park site. All of these samples were shipped under a COC record, properly preserved, and received intact by the analytical laboratory. Analytical sample results were submitted in sample delivery groups (SDGs) BPP75, BPP76, BPP77, BPP78, BPP79, BPP80, BPP84, BPP86, BPP88, 074IJ, and 030IK. Data validation was performed in accordance with the most current editions of the NYSDEC ASP and the USEPA Region II SOPs for organic and inorganic data review. This data validation and usability report is presented by analysis type and the validated laboratory data are presented in Attachment A.

2.1.1 Volatiles Including Methane, Ethane, Ethene, and Propane

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Laboratory control sample (LCS) recoveries
- Laboratory method blank and trip blank contamination
- Instrument performance
- Initial and continuing calibrations
- Internal standard responses
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of MS/MSD precision and accuracy and blank contamination.

MS/MSD Precision and Accuracy

All precision (relative percent difference; RPD) and accuracy (percent recovery; %R) measurements were considered acceptable and within QC limits for all compounds of designated spiked project samples with the exception of the low MS/MSD accuracy results for vinyl chloride (-234%R/-215%R; QC limit 66-133%R) during the spiked analyses of sample MW-16A; and the high MSD recoveries for cis-1,2-dichloroethene (167%R; QC limit 85-125%R) and 1,1-dichloroethane (144%R; QC limit 84-129%R)

and the low MS/MSD accuracy results for methane (-166%R/0%R; QC limit 35-157%R) during the spiked analyses of sample PMW-1L. Validation qualification of the parent samples MW-16A and PMW-1L was not required for these compounds since the associated MS/MSD accuracy result was within the QC limit or sample concentration for the associated compound was greater than the spike concentration thereby masking the spiked compound.

Blank Contamination

The laboratory method blank PBLK24301 associated with samples collected on 10/26/11 contained methane at a concentration of 10 µg/L. Validation qualification of the associated sample results was not required since the project samples were not affected by the contamination in this blank.

Usability

All volatile groundwater sample results including methane, ethane, ethane, and propane were considered usable following data review.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The volatile groundwater data presented were 100% (i.e., usable). The validated volatile laboratory data are tabulated and presented in Attachment A.

It was noted that samples INJ-01, -02, -05L, -05U, PMW-1L, -1U, -2L, -2U, -3U, -3L, -5, -7, -8, -10, MW-07A, -07B, -10A, -10B, -11B, -16A, -17B, and -34B were diluted and reanalyzed since 1,1-dichloroethane, cis-1,2-dichloroethene, trichloroethene, vinyl chloride, and/or methane exceeded calibration ranges during the original analysis. Results from the reanalysis of these samples for the associated compounds were reported in the validated laboratory data table in Attachment A.

2.1.2 Dissolved Metals

The following items were reviewed for compliancy in the metals analysis:

- Custody documentation
- Holding times
- Initial and continuing calibration, and preparation blank contamination
- Initial and continuing calibration verifications
- Interference check sample recoveries
- Matrix spike recoveries
- Laboratory duplicate precision
- Field duplicate precision
- Laboratory control sample (LCS) recoveries
- Serial dilutions
- Sample result verification and identification

- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of instrument calibrations.

Calibrations

All initial and continuing calibration verifications were analyzed at the appropriate frequency with recoveries within QC limits. The contract required detection limit (CRDL) standard was analyzed at the appropriate frequency with recoveries within the 70-130%R QC limit with the exception of the high recovery for manganese (170%R) in the standard associated with samples collected on 10/21/11. Therefore, manganese results were considered estimated, possibly biased high, and qualified "J" for the affected samples.

Usability

All metals sample results were considered usable following data review.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The dissolved metals data presented were 100% complete (i.e., usable). The validated groundwater laboratory data are tabulated and presented in Attachment A.

ATTACHMENT A

VALIDATED LABORATORY DATA

Analytical Summary Table Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW- 2B MW-2B_10/20/2011 6445742 LANCASTERLABS BPP75 WATER 10/20/2011 11:40 1/9/2012	MW- 4A MW-4A_102511 6449973 LANCASTERLABS/MI BPP78/074IJ WATER 10/25/2011 11:35 1/9/2012	MW- 5A MW-5A_10/21/2011 6446881 LANCASTERLABS BPP76 WATER 10/21/2011 14:20 1/9/2012	MW- 5B MW-5B_10/21/2011 6446882 LANCASTERLABS BPP76 WATER 10/21/2011 15:40 1/9/2012	MW- 6 MW-6_10/20/2011 6445741 LANCASTERLABS BPP75 WATER 10/20/2011 10:35 1/9/2012	MW- 7A MW-7A_102711 6453130 LANCASTERLABS/MI BPP80/074IJ WATER 10/27/2011 15:20 1/9/2012	MW- 7B MW-7B_102611 6451588 LANCASTERLABS BPP79 WATER 10/26/2011 10:00 1/9/2012
CAS NO.	COMPOUND	UNITS:							
	VOLATILES								
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U
75-34-3	1,1-DICHLOROETHANE	ug/l	5 U	18	5 U	5 U	5 U	22	5 U
75-35-4	1,1-DICHLOROETHENE	ug/l	5 U	3.8 J	5 U	5 U	5 U	5 U	5 U
75-00-3	CHLOROETHANE	ug/l	5 U	5 U	5 U	5 U	5 U	13	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	1.8 J	150	5.7	48	33	20	6
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	5 U	8.1	5 U	5 U	5 U	5 U	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	5 U	160	5 U	5 U	5 U	5 U	5 U
75-01-4	VINYL CHLORIDE	ug/l	2.6 J	73	3.3 J	63	57	19	25
74-85-1	ETHENE	ug/l		12	1.5 J	5 U		25	3.6 J
74-84-0	ETHANE	ug/l		5 U	5 U	5 U		57	5 U
74-82-8	METHANE	ug/l		170	9.6 J	72		20000	3400
74-98-6	PROPANE	ug/l		5 U	5 U	5 U			
	DISSOLVED METALS								
7429-90-5	ALUMINUM	mg/l		0.2 U	0.2 U	0.2 U		0.2 U	0.2 U
7440-38-2	ARSENIC	mg/l		0.02 U	0.02 U	0.02 U		0.02 U	0.02 U
7440-70-2	CALCIUM	mg/l		121	35	157		173	133
7439-89-6	IRON	mg/l		0.0146 J	0.0265 J	0.0196 J		0.115 J	0.0747 J
7439-95-4	MAGNESIUM	mg/l		51.8	10.1	59.4		58	48.7
7439-96-5	MANGANESE	mg/l		0.0842	0.005 U	0.0936 J		0.0647	0.102
7440-23-5	SODIUM	mg/l		60.9	220	57.8		38.3	91.5
	OTHER								
24959-67-9	BROMIDE	mg/l		2.5 U				2.5 U	2.5 U
BOD	BIOCHEMICAL OXYGEN DEMAND (	mg/l		3.1 U	3.1 U	2.5 U			
16887-00-6	CHLORIDE (AS CL)	mg/l		95.9 J	204	130		28.7	168
COD	COD - CHEMICAL OXYGEN DEMANI	mg/l		50 U	50 U	17.9 J			
DOC	DISSOLVED ORGANIC CARBON	mg/l		1.6	1 U	4.5		24	5
14797-55-8	NITROGEN, NITRATE (AS N)	mg/l		0.1 U	0.75	0.1 U			
14797-65-0	NITROGEN, NITRITE	mg/l		0.05 U	0.05 U	0.05 U			
14808-79-8	SULFATE (AS SO4)	mg/l		263 J	164	358		57.1	218 J
18496-25-8	SULFIDE	mg/l		0.16 U	0.16 U	0.16 U			
TOC	TOTAL ORGANIC CARBON	mg/l		2.1	1.5	4.9		25.1	8.4
	DHC AND GENE ANALYSIS								
BVC	BVC	cells/mL		0.5 U				73.8	
DHB	DHB	cells/mL		8.8				258	
DHC	DHC	cells/mL		0.3 J				298	
TCE	TCE	cells/mL		0.5 U				226	
VCR	VCR	cells/mL		0.6				1070	

Analytical Summary Table Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW- 8 MW-8_10/24/2011 6448120 LANCASTERLABS BPP77 WATER 10/24/2011 11:50 1/9/2012	MW-10A MW-10A_102511 6449975 LANCASTERLABS BPP78 WATER 10/25/2011 15:00 1/9/2012	MW-10B MW-10B_102611 6451585 LANCASTERLABS BPP79 WATER 10/26/2011 12:30 1/9/2012	MW-11B MW-11B_102611 6451584 LANCASTERLABS BPP79 WATER 10/26/2011 13:15 1/9/2012	MW-12A MW-12A_10/20/2011 6445744 LANCASTERLABS BPP75 WATER 10/20/2011 15:40 1/9/2012	MW-12B MW-12B_10/20/2011 6445745 LANCASTERLABS BPP75 WATER 10/20/2011 16:20 1/9/2012	MW-13B MW-13B_10/21/2011 6446879 LANCASTERLABS BPP76 WATER 10/21/2011 10:50 1/9/2012
CAS NO.	COMPOUND	UNITS:							
	VOLATILES								
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	5 U	5 U	10 U	5 U	5 U	5 U	5 U
75-34-3	1,1-DICHLOROETHANE	ug/l	5 U	7.7	10 U	1.8 J	1.8 J	5 U	5 U
75-35-4	1,1-DICHLOROETHENE	ug/l	5 U	1.2 J	1.8 J	5 U	5 U	5 U	5 U
75-00-3	CHLOROETHANE	ug/l	5 U	5 U	10 U	5 U	5 U	5 U	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	1.9 J	630	960	2.2 J	19	0.98 J	17
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	5 U	5 U	10 U	5 U	5 U	5 U	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	5 U	11	11	5 U	5 U	5 U	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	5 U	5 U	10 U	5 U	5 U	5 U	5 U
75-01-4	VINYL CHLORIDE	ug/l	2.1 J	250	180	4.6 J	16	5 U	24
74-85-1	ETHENE	ug/l		29	24	90			
74-84-0	ETHANE	ug/l		5 U	2.7 J	5 U			
74-82-8	METHANE	ug/l		66	300	1500			
74-98-6	PROPANE	ug/l		5 U	2.7 J	5 U			
	DISSOLVED METALS								
7429-90-5	ALUMINUM	mg/l		0.2 U	0.2 U	0.2 U			
7440-38-2	ARSENIC	mg/l		0.02 U	0.02 U	0.02 U			
7440-70-2	CALCIUM	mg/l		228	156	134			
7439-89-6	IRON	mg/l		0.0808 J	0.0459 J	0.0859 J			
7439-95-4	MAGNESIUM	mg/l		83.2	57.3	49.7			
7439-96-5	MANGANESE	mg/l		0.179	0.0634	0.0647			
7440-23-5	SODIUM	mg/l		282	75.9	82.9			
	OTHER								
24959-67-9	BROMIDE	mg/l			2.5 U	2.5 U			
BOD	BIOCHEMICAL OXYGEN DEMAND (	mg/l		2.8 U	3.5 U	8.9			
16887-00-6	CHLORIDE (AS CL)	mg/l		770 J	189	157			
COD	COD - CHEMICAL OXYGEN DEMANI	mg/l		27 J	13.4 J	31.5 J			
DOC	DISSOLVED ORGANIC CARBON	mg/l		1.2	3.1	3.2			
14797-55-8	NITROGEN, NITRATE (AS N)	mg/l		0.1 U	0.1 U	0.043 J			
14797-65-0	NITROGEN, NITRITE	mg/l		0.05 U	0.05 U	0.05 U			
14808-79-8	SULFATE (AS SO4)	mg/l		254 J	259 J	245 J			
18496-25-8	SULFIDE	mg/l		0.16 U	0.16 U	8.5			
TOC	TOTAL ORGANIC CARBON	mg/l		1.9	3.4	3.8			
	DHC AND GENE ANALYSIS								
BVC	BVC	cells/mL							
DHB	DHB	cells/mL							
DHC	DHC	cells/mL							
TCE	TCE	cells/mL							
VCR	VCR	cells/mL							

Analytical Summary Table Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-14B MW-14B_10/24/2011 6448123 LANCASTERLABS BPP77 WATER 10/24/2011 15:10 1/9/2012	MW-15 MW-15_10/21/2011 6446880 LANCASTERLABS BPP76 WATER 10/21/2011 11:40 1/9/2012	MW-16A MW-16A_102711 6453118 LANCASTERLABS/MI BPP80/074IJ WATER 10/27/2011 13:50 1/9/2012	MW-16B MW-16B_102511 6449974 LANCASTERLABS BPP78 WATER 10/25/2011 13:30 1/9/2012	MW-17A MW-17A_10/24/2011 6448121 LANCASTERLABS BPP77 WATER 10/24/2011 12:45 1/9/2012	MW-17B MW-17B_102611 6451586 LANCASTERLABS BPP79 WATER 10/26/2011 11:50 1/9/2012	Dup of MW-17B MW-34B MW-34B_102611 6451587 LANCASTERLABS BPP79 WATER 10/26/2011 13:10 1/9/2012
CAS NO.	COMPOUND	UNITS:							
	VOLATILES								
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U
75-34-3	1,1-DICHLOROETHANE	ug/l	5 U	1.4 J	5 U	5 U	26	48	49
75-35-4	1,1-DICHLOROETHENE	ug/l	5 U	5 U	5 U	5 U	12	5 U	5 U
75-00-3	CHLOROETHANE	ug/l	5 U	5 U	5 U	5 U	5 U	1.4 J	1.4 J
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	4.1 J	32	11	27	160	19	19
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	5 U	5 U	5 U	5 U	5 U	5 U	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	5 U	1.3 J	5 U	5 U	1.2 J	0.82 J	0.88 J
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	5 U	5 U	5 U	5 U	11	5 U	5 U
75-01-4	VINYL CHLORIDE	ug/l	5.4	52	340	43	30	27	27
74-85-1	ETHENE	ug/l	66		44	3.8 J	3.2 J	81	88
74-84-0	ETHANE	ug/l	5 U		5 U	5 U	11	70	77
74-82-8	METHANE	ug/l	690		33	140	4900	15000	14000
74-98-6	PROPANE	ug/l	5 U		5 U	5 U	5 U	5 U	5 U
	DISSOLVED METALS								
7429-90-5	ALUMINUM	mg/l	0.2 U		0.0875 J	0.2 U	0.2 U	0.2 U	0.2 U
7440-38-2	ARSENIC	mg/l	0.0062 J		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
7440-70-2	CALCIUM	mg/l	117		344	150	130	194	193
7439-89-6	IRON	mg/l	0.0264 J		0.0424 J	0.2 U	0.2 U	0.102 J	0.0925 J
7439-95-4	MAGNESIUM	mg/l	36.6		151	56	36.1	57.5	57.4
7439-96-5	MANGANESE	mg/l	0.0439		2.24	0.072	0.0626	0.0933	0.0932
7440-23-5	SODIUM	mg/l	96.5		184	76.5	426	430	429
	OTHER								
24959-67-9	BROMIDE	mg/l	2.5 U		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
BOD	BIOCHEMICAL OXYGEN DEMAND (	mg/l	5.2 U			2.6 U	5.1	5.7	7
16887-00-6	CHLORIDE (AS CL)	mg/l	260		266	134 J	1010	966	944
COD	COD - CHEMICAL OXYGEN DEMANI	mg/l	36 J		31.5 J	50 U	33.8 J	45.1 J	49.6 J
DOC	DISSOLVED ORGANIC CARBON	mg/l	6.9		6.9	4	3	2.9	3.1
14797-55-8	NITROGEN, NITRATE (AS N)	mg/l	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
14797-65-0	NITROGEN, NITRITE	mg/l	0.05 U		0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
14808-79-8	SULFATE (AS SO4)	mg/l	274		1130	303 J	189	154 J	152 J
18496-25-8	SULFIDE	mg/l	3		0.16 U	0.38	0.16 U	4.5	4.6
TOC	TOTAL ORGANIC CARBON	mg/l	7		6.9	3.5	3.9	3.2	3.4
	DHC AND GENE ANALYSIS								
BVC	BVC	cells/mL			0.5 U				
DHB	DHB	cells/mL			1220				
DHC	DHC	cells/mL			0.5 U				
TCE	TCE	cells/mL			0.5 U				
VCR	VCR	cells/mL			0.5 U				

Analytical Summary Table Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-18A MW-18A_10/24/2011 6448122 LANCASTERLABS BPP77 WATER 10/24/2011 13:55 1/9/2012	MW-18B MW-18B_102511 6449972 LANCASTERLABS/MI BPP78/074IJ WATER 10/25/2011 9:30 1/9/2012	MW-19B MW-19B_10/20/2011 6445743 LANCASTERLABS BPP75 WATER 10/20/2011 14:30 1/9/2012
CAS NO.	COMPOUND	UNITS:			
	VOLATILES				
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	5 U	5 U	5 U
75-34-3	1,1-DICHLOROETHANE	ug/l	4.7 J	5 U	5 U
75-35-4	1,1-DICHLOROETHENE	ug/l	0.9 J	5 U	5 U
75-00-3	CHLOROETHANE	ug/l	5 U	5 U	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	42	150	8.7
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	5 U	5 U	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	5 U	0.9 J	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	23	5 U	5 U
75-01-4	VINYL CHLORIDE	ug/l	8.4	220	3.3 J
74-85-1	ETHENE	ug/l	5 U	4 J	
74-84-0	ETHANE	ug/l	5 U	5 U	
74-82-8	METHANE	ug/l	19	120	
74-98-6	PROPANE	ug/l	5 U	5 U	
	DISSOLVED METALS				
7429-90-5	ALUMINUM	mg/l	0.2 U	0.2 U	
7440-38-2	ARSENIC	mg/l	0.0055 J	0.02 U	
7440-70-2	CALCIUM	mg/l	123	159	
7439-89-6	IRON	mg/l	0.0478 J	0.0657 J	
7439-95-4	MAGNESIUM	mg/l	43.2	59.1	
7439-96-5	MANGANESE	mg/l	0.0664	0.0883	
7440-23-5	SODIUM	mg/l	29.4	64.4	
	OTHER				
24959-67-9	BROMIDE	mg/l	2.5 U	2.5 U	
BOD	BIOCHEMICAL OXYGEN DEMAND (	mg/l	2.1 U	2.4 U	
16887-00-6	CHLORIDE (AS CL)	mg/l	293	114 J	
COD	COD - CHEMICAL OXYGEN DEMAN	mg/l	50 U	50 U	
DOC	DISSOLVED ORGANIC CARBON	mg/l	1.8	4.1	
14797-55-8	NITROGEN, NITRATE (AS N)	mg/l	0.1 U	0.1 U	
14797-65-0	NITROGEN, NITRITE	mg/l	0.05 U	0.05 U	
14808-79-8	SULFATE (AS SO4)	mg/l	156	305 J	
18496-25-8	SULFIDE	mg/l	0.16 U	0.16 U	
TOC	TOTAL ORGANIC CARBON	mg/l	1.8	3.9	
	DHC AND GENE ANALYSIS				
BVC	BVC	cells/mL		1	
DHB	DHB	cells/mL		49.2	
DHC	DHC	cells/mL		78.6	
TCE	TCE	cells/mL		12.8	
VCR	VCR	cells/mL		488	

APPENDIX B
GROUNDWATER SAMPLING LOGS (FALL 2011)

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: INJ-01_102711 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
28.05 - 7.74

Method: Geopump/Low Flow Date/Time: 10/27/2011 14:40

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
14:40	7.74	200	0.0	7.77	33.9	9.8	1.01	12.09	0.643	-197	
14:45	7.81	200	1.0	7.46	0.01	13.7	1.01	12.07	0.645	-209	
14:50	7.85	200	2.0	7.36	0.00	0.00	1.00	12.90	0.641	-257	
14:55	7.85	200	3.5	7.34	0.00	0.00	1.03	12.88	0.662	-285	
15:00	7.87	200	5.0	7.35	0.00	0.00	1.06	12.83	0.680	-295	
15:05	7.89	200	7.0	7.33	0.00	0.00	1.09	12.73	0.698	-301	
15:10	7.89	200	8.0	7.34	0.00	0.00	1.10	12.74	0.702	-301	
15:15	7.89	200	10.0	7.34	0.00	0.00	1.10	12.67	0.709	-301	
15:20	7.89	200	11.5	7.33	0.00	0.00	1.11	12.67	0.712	-302	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/27/2011 15:30 Total Volume of Water purged: 3.0 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.33	Ferrous Iron (mg/L)	0.6
Spec. Cond.(mS/cm)	1.11	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	222
Temp.(°C)	12.67	Hydrogen Sulfide	4
TDS (g/L)	0.712	Alkalinty	20
ORP (mv)	-302		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Microbials	1 Filter	None	Lab SOP

Comments: Overcast Cold. Microbial, 1 Filter - 1000 mL

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: INJ-02_102611 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Method: Geopump/Low Flow Date/Time: 10/26/2011 14:50

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
14:50	7.69	250	0.0	7.43	3.14	0.0	1.04	12.00	0.675	-157	
14:55	7.70	250	1.0	7.46	2.79	0.0	0.931	12.27	0.600	-188	
15:00	7.70	250	2.0	7.39	1.04	0.0	0.934	12.94	0.599	-237	
15:05	7.70	250	3.0	7.39	0.00	0.0	0.937	12.96	0.599	-239	
15:10	7.71	250	5.0	7.26	0.00	0.0	0.946	12.99	0.606	-262	
15:15	7.72	250	6.5	7.35	0.00	0.0	1.09	12.76	0.699	-284	
15:20	7.72	250	7.5	7.32	0.00	0.0	1.09	12.75	0.700	-284	
15:25	7.72	250	9.0	7.30	0.00	0.0	1.11	12.72	0.713	-287	
15:30	7.72	250	10.5	7.29	0.00	0.0	1.11	12.70	0.714	-287	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/26/2011 15:45 Total Volume of Water purged: 3.5 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.29	Ferrous Iron (mg/L)	0.0
Spec. Cond.(mS/cm)	1.11	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	256
Temp.(°C)	12.70	Hydrogen Sulfide	3
TDS (g/L)	0.714	Alkalinty	320
ORP (mv)	-287		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B

Comments: Overcast Light Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: INJ-05a_102711 Well Diameter: 1.5 Inches

Samplers: R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW = 6.80 TD = 20

Method: Geopump/Low Flow Date/Time: 10/27/2011 10:30

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	GAL		mg/L	NTU	mS/cm	°C	g/L	mv	
10:30	6.80	200	0.0	7.86	3.92	92.4	1.26	11.09	0.802	-66	Clear
10:35	9.20	200	0.2	7.60	2.18	95.1	1.23	12.69	0.786	-67	Clear
10:40	9.80	200	0.4	7.64	1.60	85.1	1.23	13.11	0.787	-64	Clear
10:45	11.11	200	0.5	7.63	1.29	40.2	1.22	13.23	0.782	-71	Clear
10:55	13.25	200	1.0	7.62	1.08	23.2	1.22	13.47	0.780	-60	Clear
11:00	14.72	200	1.2	7.71	0.94	18.2	1.22	13.50	0.781	-60	Clear
11:10	13.25	200	1.4	7.71	0.67	18.3	1.22	13.06	0.784	-63	Clear
11:15	13.30	200	1.5	7.72	0.68	10.1	1.22	13.10	0.780	-64	Clear
11:20	15.35	200	1.7	7.73	0.59	8.5	1.22	13.01	0.779	-66	Clear
11:25	15.45	200	1.8	7.73	0.28	7.9	1.22	13.03	0.779	-67	Clear
11:30	15.60	200	2.0	7.74	0.00	12.8	1.21	13.10	0.776	-73	Clear
11:35	15.65	200	2.2	7.75	0.00	15.2	1.21	13.10	0.772	-79	Clear

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/27/2011 11:35 Total Volume of Water purged: ~ 2.4 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.75	Ferrous Iron (mg/L)	1.2
Spec. Cond.(mS/cm)	1.21	Manganese	NA
Turbidity (NTU)	15.20	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	248
Temp.(°C)	13.10	Hydrogen Sulfide	0
TDS (g/L)	0.77	Alkalinty	22
ORP (mv)	-79		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Microbials	1 Filter	None	Lab SOP

Comments: Microbial - 1st Filter = 700 mL, 2nd Filter = 500 mL

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: INJ-05b_102711 Well Diameter: 1.5 Inches

Samplers: R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW = 7.78 TD = 26.92

Method: Geopump/Low Flow Date/Time: 10/27/2011 8:40

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	GAL		mg/L	NTU	mS/cm	°C	g/L	mv	
8:40	7.78	~200	0.0	7.38	3.72	28.8	1.16	11.97	0.723	-130	Clear
8:45	7.79	~200	0.4	7.33	1.06	91.0	1.17	13.46	0.749	-169	Clear
8:50	7.80	~200	0.7	7.36	0.10	424	1.22	13.27	0.780	-192	Clear
8:55	7.79	~200	1.0	7.35	0.00	425	1.21	13.09	0.776	-230	Clear
9:00	7.79	~200	1.7	7.51	0.00	64.9	1.18	12.99	0.758	-289	Clear
9:10	7.79	~200	2.0	7.53	0.00	41.2	1.18	12.99	0.756	-295	Clear
9:15	7.79	~200	2.3	7.53	0.00	24.0	1.18	12.27	0.755	-302	Clear
9:20	7.79	~200	2.7	7.52	0.00	21.6	1.18	12.87	0.754	-304	Clear
9:25	7.79	~200	3.0	7.55	0.00	15.7	1.18	12.89	0.752	-309	Clear

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/27/2011 9:30 Total Volume of Water purged: ~3.2 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.55	Ferrous Iron (mg/L)	0.6
Spec. Cond.(mS/cm)	1.18	Manganese	NA
Turbidity (NTU)	15.70	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	272
Temp.(°C)	12.89	Hydrogen Sulfide	5
TDS (g/L)	0.752	Alkalinty	15
ORP (mv)	-309		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Microbials	1 Filter	None	Lab SOP

Comments: Microbial Sample = 1 Filter w/ 1000 mL

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-2B_102011 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? No

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
40.01

Method: Geopump/Low Flow Date/Time: 10/20/2011 11:10

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
11:10	8.16	250	0.00	7.84	0.59	39.00	1.12	13.67	0.737	-241	Odor
11:15	8.62	250	1.25	7.53	0.00	5.80	1.59	13.33	1.040	-279	
11:20	8.63	250	2.50	7.51	0.00	0.00	1.71	13.27	1.090	-289	
11:25	8.63	250	3.75	7.50	0.00	0.00	1.35	13.26	0.863	-281	
11:30	8.63	250	5.00	7.44	0.00	0.00	1.29	13.24	0.830	-277	
11:35	8.66	250	6.25	7.40	0.00	0.00	1.29	13.23	0.826	-275	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/20/2011 11:40 Total Volume of Water purged: 2.5 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.40	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	1.29	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	13.23	Hydrogen Sulfide	NA
TDS (g/L)	0.826	Alkalinty	NA
ORP (mv)	-275.00		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260

Comments: Overcase, Cool, Misting rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-4A_102511 Well Diameter: 2 Inches

Samplers: C. Betchan, R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
18.59

Method: Geopump/Low Flow Date/Time: 10/25/2011 10:50

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
10:50	4.13	250	0.0	7.41	3.39	126	0.996	15.38	0.641	-45	Clear
10:55	4.96	250	1.5	7.38	0.84	91	1.02	15.09	0.656	-66	
11:00	5.14	250	2.5	7.39	0.25	80.3	1.02	15.17	0.651	-70	
11:05	5.09	250	4.0	7.36	0.00	75.5	1.01	15.07	0.646	-68	
11:10	5.06	250	5.0	7.36	0.00	68.8	1.00	15.09	0.643	-63	
11:15	5.06	250	6.0	7.39	0.00	63.6	1.00	15.21	0.642	-61	
11:20	5.06	250	7.0	7.36	0.00	59.9	1.00	15.27	0.640	-57	
11:25	5.06	250	8.5	7.38	0.00	56.6	0.996	15.12	0.638	-57	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/25/2011 11:35 Total Volume of Water purged: 3.5 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.38	Ferrous Iron (mg/L)	0.80
Spec. Cond.(mS/cm)	0.996	Manganese	NA
Turbidity (NTU)	56.60	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	212.00
Temp.(°C)	15.12	Hydrogen Sulfide	0.00
TDS (g/L)	0.638	Alkalinty	260.00
ORP (mv)	-57		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	6010B
BOD	1-500 mL plastic	none	5120B
COD	1-120 mL amber	H2SO4	EPA 410.4
Nitrate	1-40 mL glass	H2SO4	EPA 353.2
Nitrite	1-40 mL glass	none	EPA 354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500
Microbial	1-filter	None	Lab SOP

Comments: Sunny Cool, Microbial Sample - 1 filter, Vol = 1000 mL

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-5A 102111 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
21.58

Method: Geopump/Low Flow Date/Time: 10/21/2011 13:28

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
13:28	10.68	250	0.0	8.38	7.28	477.00	1.10	15.44	0.705	-82	
13:33	11.18	250	0.5	8.32	4.28	23.50	1.09	15.64	0.697	-72	
13:38	11.10	250	1.0	8.30	3.37	0.00	1.09	15.44	0.700	-68	
13:43	11.05	250	1.5	8.28	2.72	0.00	1.09	15.44	0.700	-66	
13:48	11.02	250	2.0	8.29	2.37	0.00	1.10	15.52	0.701	-63	
13:53	11.02	250	2.5	8.28	2.13	0.00	1.10	15.60	0.704	-61	
13:58	11.02	250	3.0	8.29	1.90	0.00	1.10	15.57	0.705	-52	
14:03	11.02	250	3.5	8.29	1.69	0.00	1.10	15.54	0.706	-48	
14:08	11.02	250	4.0	8.29	1.54	0.00	1.10	15.57	0.707	-46	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/21/2011 14:20 Total Volume of Water purged: 4

Field Parameters

HORRIBA		HACH TEST KITS	
pH	8.29	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	1.10	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	1.54	Carbon Dioxide	NA
Temp.(°C)	15.57	Hydrogen Sulfide	NA
TDS (g/L)	0.707	Alkalinty	NA
ORP (mv)	-46		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE& Propane	2-40mL glass	HCl	RSK-175
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
BOD	1-500 mL plastic	none	SM5210B
COD	1-120 mL amber	H2SO4	EPA 410.4
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Nitrate	1-40 mL glass	H2SO4	EPA 353.2
Nitrite	1-40 mL glass	none	EPA 354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500

Comments: Overcast Cool

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-5B_102111 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
39.44

Method: Geopump/Low Flow Date/Time: 10/21/2011 14:51

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
14:51	10.20	250	0.0	7.74	3.00	712.00	1.490	14.82	0.961	-135	
14:56	10.21	250	2.0	7.46	0.00	30.40	1.560	14.06	0.997	-87	
15:01	10.23	250	5.0	7.45	0.00	0.00	1.470	13.92	0.992	-98	
15:06	10.25	250	8.0	7.45	0.00	0.00	1.420	13.91	0.908	-114	
15:11	10.25	250	10.0	7.41	0.00	0.00	1.420	13.95	0.905	-117	
15:16	10.25	250	12.0	7.41	0.00	0.00	1.400	13.79	0.893	-122	
15:21	10.25	250	15.0	7.40	0.00	0.00	1.360	13.70	0.872	-125	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/21/2011 15:40 Total Volume of Water purged: 4 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.40	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	1.36	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	13.70	Hydrogen Sulfide	NA
TDS (g/L)	0.872	Alkalinty	NA
ORP (mv)	-125		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Choride/Sulfate	2-40mL glass	None	Lab SOP
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
BOD	1-500 mL plastic	none	SM5210B
COD	1-120 mL amber	H2SO4	EPA 410.4
Dissolved Iron	1-500mL plastic	None	6010B
Nitrate	1-40 mL glass	H2SO4	EPA 353.2
Nitrite	1-40 mL glass	none	EPA 354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500

Comments: Overcast Light Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-6_102011 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
43.13 - 7.82

Method: Geopump/Low Flow Date/Time: 10/20/2011 10:07

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
10:07	7.82	250	0.00	6.89	0.00	0.00	2.010	13.48	1.210	-261	odor
10:12	7.89	250	1.25	7.25	0.00	0.00	1.280	13.32	0.816	-254	
10:17	7.88	250	2.50	7.30	0.00	0.00	1.230	13.28	0.785	-245	
10:22	7.89	250	3.75	7.33	0.00	0.00	1.230	13.24	0.783	-243	
10:27	7.91	250	5.00	7.35	0.00	0.00	1.220	13.21	0.785	-246	
10:32	7.92	250	6.25	7.37	0.00	0.00	1.230	13.18	0.783	-247	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/20/2011 10:35 Total Volume of Water purged: 2.25 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.37	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	1.23	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	13.18	Hydrogen Sulfide	NA
TDS (g/L)	0.783	Alkalinty	NA
ORP (mv)	-247		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260

Comments: Overcast, Cool

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-7A_102711 Well Diameter: 2 Inches

Samplers: R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW = 7.55 DTB = 21.80

Method: Geopump/Low Flow Date/Time: 10/27/2011 14:30

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
14:30	7.55	200	0.0	7.72	5.5	69.7	1.07	12.59	0.653	-247	
14:35	10.05	200	0.5	7.66	0.00	26.8	1.07	12.21	0.685	-298	
14:40	10.15	200	0.8	7.65	0.00	25.6	1.08	12.03	0.688	-301	
14:45	10.53	200	1.0	7.64	0.00	20.9	1.07	11.85	0.686	-304	
14:55	10.85	200	1.4	7.66	0.00	17.1	1.06	11.75	0.678	-311	
15:00	11.08	200	1.7	7.67	0.00	12.1	1.06	11.76	0.676	-318	
15:05	11.11	200	1.9	7.66	0.00	8.3	1.06	11.75	0.678	-319	
15:10	11.12	200	2.2	7.64	0.00	10.6	1.03	12.70	0.662	-323	
15:15	11.12	200	2.4	7.62	0.00	8.6	1.04	12.62	0.663	-325	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/27/2011 15:30 Total Volume of Water purged: ~ 2.5 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.62	Ferrous Iron (mg/L)	0.8
Spec. Cond.(mS/cm)	1.04	Manganese	NA
Turbidity (NTU)	8.60	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	384
Temp.(°C)	12.62	Hydrogen Sulfide	4
TDS (g/L)	NA	Alkalinty	660
ORP (mv)	-325		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	EPA 300.1
Choride/Sulfate	2-40mL glass	None	EPA 300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Microbials	1 Filter	None	Lab SOP

Comments: Microbial Sample - 1st Filter = 300 mL, 2nd Filter = 300 mL

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-7B_102611 Well Diameter: 2 Inches

Samplers: C. Betchan, R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
43.4

Method: Geopump/Low Flow Date/Time: 10/26/2011 9:05

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
9:05	8.35	250	0.0	7.03	1.29	90.4	1.17	12.68	0.760	-248	
9:10	8.71	250	1.5	7.47	0.25	143	1.14	12.81	0.731	-302	
9:15	8.71	250	3.0	7.55	0.00	109	1.14	12.80	0.735	-305	
9:20	8.72	250	4.5	7.49	0.00	55.6	1.15	12.72	0.736	-303	
9:25	8.71	250	5.5	7.46	0.00	60.6	1.06	12.57	0.622	-305	
9:30	8.71	250	6.5	7.46	0.00	0.0	1.09	12.53	0.685	-308	
9:35	8.70	250	8.0	7.45	0.00	0.0	0.431	12.47	0.210	-309	
9:40	8.70	250	9.0	7.40	0.00	0.0	0.476	12.55	0.286	-308	
9:45	8.70	250	10.5	7.39	0.00	0.0	0.056	12.58	0.037	-308	Sulfur-like odor
9:50	8.70	250	11.5	7.39	0.00	0.0	0.047	12.53	0.031	-310	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/26/2011 10:00 Total Volume of Water purged: 3.5 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.39	Ferrous Iron (mg/L)	0.00
Spec. Cond.(mS/cm)	0.047	Manganese	-
Turbidity (NTU)	0.00	Sulfate	-
DO (mg/L)	0.00	Carbon Dioxide	228
Temp.(°C)	12.53	Hydrogen Sulfide	5.00
TDS (g/L)	0.031	Alkalinty	300
ORP (mv)	-310		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	EPA 300.1
Choride/Sulfate	2-40mL glass	None	EPA 300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	Noe	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B

Comments: Overcast Light rain, Sulfur-like odor

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-8_102411 Well Diameter: 2 Inches

Samplers: J. Poulsen Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
10.93

Method: Geopump/Low Flow Date/Time: 10/24/2011 11:13

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
11:13	10.93		0.0	6.96	6.39	6.80	0.95	12.28	0.69	44	clear
11:35	10.97	200	4.0	7.24	0.00	0.00	1.22	12.97	0.78	-250	clear
11:40	10.98	200	5.0	7.26	0.00	0.00	1.22	12.97	0.78	-256	clear
11:45		200	6.0	7.28	0.00	0.00	1.23	12.93	0.784	-257	clear

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/24/2011 11:50 Total Volume of Water purged:

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.28	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	1.23	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	12.93	Hydrogen Sulfide	NA
TDS (g/L)	0.784	Alkalinty	NA
ORP (mv)	-257		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260

Comments:

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-10A102511 Well Diameter: 2 Inches

Samplers: C. Betchan, R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
20.8

Method: Geopump/Low Flow Date/Time: 10/25/2011 14:20

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
14:20	9.45	250	0.0	8.65	1.99	180	2.90	18.52	1.86	-127	Turbid
14:25	9.54	250	2.0	7.54	0.15	116	2.97	17.51	1.90	-109	
14:30	9.54	250	3.5	7.38	0.00	122	2.98	17.24	1.91	-104	
14:35	9.56	250	5.0	7.28	0.00	118	2.99	17.05	1.91	-100	
14:40	9.56	250	6.0	7.16	0.00	89.1	3.00	16.82	1.92	-95	
14:45	9.56	250	7.0	7.11	0.00	107	3.01	16.71	1.93	-94	
14:50	9.56	250	8.0	7.08	0.00	103	3.02	16.62	1.93	-92	
14:55	9.56	250	9.0	7.07	0.00	99	3.03	16.51	1.94	-91	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/25/2011 15:00 Total Volume of Water purged: 2.75 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.07	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	3.03	Manganese	NA
Turbidity (NTU)	99.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	16.51	Hydrogen Sulfide	NA
TDS (g/L)	1.94	Alkalinty	NA
ORP (mv)	-91		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber plastic	H3PO4	5310C
DOC	1-120mL amber plastic	None	5310B
BOD	1-500 mL plastic	none	SM5210B
COD	1-120 mL amber	H2SO4	EPA 410.4
Dissolved Iron	1-500mL plastic	None	6010B
Nitrate	1-40 mL glass	H2SO4	EPA 353.2
Nitrite	1-40 mL glass	none	EPA 354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500

Comments: Overcast Cool Scattered Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-10B_102611 Well Diameter: 4 Inches

Samplers: R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW=8.70 DTB=38.80

Method: Geopump/Low Flow Date/Time: 10/26/2011 11:45

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
11:45	8.70	~350	0.0	6.42	2.52	0.00	1.61	14.50	1.030	-112	Clear
11:50	8.20	~350	0.3	6.63	1.33	0.00	1.55	14.12	0.989	-133	Clear
11:55	8.70	~350	0.8	6.84	0.03	0.00	1.41	3.96	0.905	-145	Clear
12:00	8.70	~350	1.2	6.88	0.00	0.00	1.41	13.91	0.904	-149	Clear
12:05	8.71	~350	1.8	6.89	0.00	0.00	1.42	13.92	0.906	-147	Clear
12:10	8.72	~350	2.6	6.86	0.00	0.00	1.43	13.89	0.915	-144	Clear
12:15	8.72	~350	3.0	6.89	0.00	0.00	1.44	13.89	0.920	-144	Clear
12:20	8.73	~350	3.6	6.94	0.00	0.00	1.46	13.83	0.927	-146	Clear
12:25	8.74	~350	4.5	6.92	0.00	0.00	1.46	13.84	0.936	-147	Clear

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/26/2011 12:30 Total Volume of Water purged: ~4.5 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	6.92	Ferrous Iron (mg/L)	0.8
Spec. Cond.(mS/cm)	1.46	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	280
Temp.(°C)	13.84	Hydrogen Sulfide	0.0
TDS (g/L)	0.936	Alkalinty	460
ORP (mv)	-147		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
BOD	1-500mL plastic	None	5120B
COD	1-120mL amber glass	H2SO4	410.4
Dissolved inorganics	1-500mL plastic	None	SW6010B
Nitrate	1-40mL glass	H2SO4	352.2
Nitrite	1-40mL glass	None	354.1
Sulfide	1-500mL glass	NaOH/ZnAc	SM204500

Comments:

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-11B_102611 Well Diameter: 4 Inches

Samplers: J. Poulsen Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
8.32

Method: Geopump/Low Flow Date/Time: 10/26/2011 12:45

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
12:45	8.32	250	0.0	7.42	10.75	112	0.001	14.43	0.001	-211	Clear
12:50	8.62	250	1.0	7.25	1.60	0.00	1.85	14.41	0.750	-249	Clear
13:00	8.63	250	3.0	7.29	0.00	0.00	1.18	14.38	0.755	-280	Clear
13:05	8.63	300	5.0	7.36	0.00	0.00	1.18	14.42	0.755	-291	Clear
13:10	8.63	300	7.0	7.36	0.00	0.00	1.18	14.37	0.756	-296	Clear
13:15	8.63	300	9.0	7.50	0.00	0.00	1.18	14.22	0.758	-306	Clear

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/26/2011 13:15 Total Volume of Water purged: 9 L

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.51	Ferrous Iron (mg/L)	0
Spec. Cond.(mS/cm)	1.18	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	280
Temp.(°C)	14.20	Hydrogen Sulfide	2
TDS (g/L)	0.758	Alkalinty	320
ORP (mv)	-328		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
BOD	1-500mL plastic	None	5120B
COD	1-120mL amber glass	H2SO4	410.4
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Nitrate	1-40mL glass	H2SO4	352.2
Nitrite	1-40mL glass	None	354.1
Sulfide	1-500mL glass	NaOH/ZnAc	SM204500

Comments:

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-12A_102011 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
14.75

Method: Geopump/Low Flow Date/Time: 10/20/2011 14:53

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
14:53	4.79	250	0.00	8.52	1.35	3.70	0.3190	13.31	0.207	-197	
14:58	4.90	250	1.25	8.30	0.00	0.00	0.3500	13.26	0.230	-202	
15:03	4.90	250	2.50	8.20	0.00	0.00	0.4050	13.20	0.266	-195	
15:08	4.90	250	3.75	8.08	0.00	0.00	0.5980	13.15	0.393	-193	
15:13	4.90	250	5.00	7.98	0.00	0.00	0.7830	13.14	0.295	-195	
15:18	4.90	250	6.25	7.94	0.00	0.00	0.8780	13.04	0.563	-197	
15:23	4.90	250	7.50	7.91	0.00	0.00	0.9010	13.01	0.577	-198	
15:28	4.90	250	8.75	7.90	0.00	0.00	0.9390	13.01	0.601	-202	
15:33	4.90	250	10.00	7.90	0.00	0.00	0.9440	13.02	0.604	-204	

Sampling Data

Method: Geopump/Low Flow Date/Time: 11/20/2011 15:40 Total Volume of Water purged:

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.90	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	0.944	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	13.02	Hydrogen Sulfide	NA
TDS (g/L)	0.604	Alkalinty	NA
ORP (mv)	-204.00		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260

Comments: Overcast Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-12B_102011 Well Diameter: 4 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
30.44

Method: Geopump/Low Flow Date/Time: 10/20/2011 15:45

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
15:45	3.33	250	0.00	8.33	2.50	0.00	0.3190	13.27	0.207	-109	
15:50	3.35	250	0.75	8.27	2.14	0.00	0.3000	13.39	0.195	-64	
15:55	3.35	250	1.25	8.18	2.06	0.00	0.2990	13.43	0.194	-7	
16:00	3.35	250	1.75	8.28	2.33	0.00	0.2980	13.40	0.194	13	
16:05	3.35	250	2.25	8.33	1.92	0.00	0.2980	13.40	0.193	35	
16:10	3.35	250	3.00	8.34	1.76	0.00	0.2990	13.39	0.195	64	
16:15	3.35	250	3.50	8.32	1.73	0.00	0.3000	13.38	0.195	64	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/20/2011 16:20 Total Volume of Water purged: 3.5

Field Parameters

HORRIBA		HACH TEST KITS	
pH	8.32	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	0.30	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	1.73	Carbon Dioxide	NA
Temp.(°C)	13.38	Hydrogen Sulfide	NA
TDS (g/L)	0.195	Alkalinty	NA
ORP (mv)	64		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260

Comments: Overcast Scattered Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-13B_102111 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
36.63

Method: Geopump/Low Flow Date/Time: 10/21/2011 9:58

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
9:58	7.63	250	0.0	5.97	4.72	401	1.5500	13.31	0.986	125	
10:03	7.89	250	0.5	7.22	0.00	216	1.9400	13.99	1.260	92	
10:08	7.89	250	1.0	7.25	0.00	386	2.4500	13.45	1.560	44	
10:13	7.88	250	1.5	7.32	0.00	516	2.3300	13.40	1.500	3	
10:18	7.83	250	2.0	7.35	0.00	800	2.6300	13.48	2.390	-82	
10:23	7.87	250	2.5	7.46	0.00	800	2.4400	13.52	1.540	-62	
10:28	7.87	250	3.0	7.38	0.00	522	2.2200	13.45	1.420	-32	
10:33	7.87	250	3.5	7.36	0.00	395	2.1700	13.43	1.390	-33	
10:38	7.87	250	4.0	7.32	0.00	297	2.2000	13.43	1.410	-37	
10:43	7.87	250	4.5	7.36	0.00	240	2.2300	13.40	1.430	-38	
10:48	7.87	250	5.0	7.35	0.00	230	2.2400	13.40	1.440	-45	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/21/2011 10:50 Total Volume of Water purged: 5

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.35	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	2.24	Manganese	NA
Turbidity (NTU)	230.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	13.40	Hydrogen Sulfide	NA
TDS (g/L)	1.44	Alkalinty	NA
ORP (mv)	-45.00		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260

Comments: Overcast, Cool

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-14B_102411 Well Diameter: 2 Inches

Samplers: C. Betchan, Rob Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
31.62

Method: Geopump/Low Flow Date/Time: 10/24/2011 14:32

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
14:32	5.19	250	0.0	8.25	5.86	204	1.04	15.58	0.664	-125	Turbid
14:37	6.13	250	1.5	7.76	0.11	118	1.04	14.51	0.665	-187	
14:42	5.92	250	3.0	7.72	0.00	101	1.06	14.49	0.680	-213	
14:47	5.93	250	4.5	7.73	0.00	73.2	1.04	14.42	0.666	-229	
14:52	5.93	250	6.0	7.73	0.00	26.5	1.03	14.33	0.658	-244	Clear
14:57	5.93	250	7.5	7.73	0.00	17.9	1.02	14.27	0.652	-257	
15:02	5.93	250	9.0	7.73	0.00	14.6	1.02	14.23	0.650	-263	
15:07	5.93	250	10.5	7.73	0.00	9.5	1.02	14.24	0.650	-269	Clear

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/24/2011 15:10 Total Volume of Water purged:

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.73	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	1.02	Manganese	NA
Turbidity (NTU)	9.50	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	14.24	Hydrogen Sulfide	NA
TDS (g/L)	0.650	Alkalinty	NA
ORP (mv)	-269		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	NOne	5310B
BOD	1-500 mL plastic	None	SM5210B
COD	1-120 mL amber	H2SO4	EPA 410.4
Dissolved Iron	1-500mL plastic	None	6010B
Nitrate	1-40 mL glass	H2SO4	EPA 353.2
Nitrite	1-40 mL glass	None	EPA 354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500

Comments: Overcast Cool

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-15_102111 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
26.96

Method: Geopump/Low Flow Date/Time: 10/21/2011 11:13

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
11:13	4.35	250	0.0	7.43	0.55	0.00	1.44	14.42	0.922	-273	Odor
11:18	4.36	250	0.5	7.47	0.00	0.00	1.41	14.58	0.892	-301	
11:23	4.38	250	1.0	7.52	0.00	0.00	1.37	14.64	0.879	-304	
11:28	4.38	250	1.5	7.55	0.00	0.00	1.36	14.64	0.870	-308	
11:33	4.38	250	2.0	7.55	0.00	0.00	1.22	14.67	0.783	-308	
11:38	4.38	250	2.5	7.55	0.00	0.00	1.22	14.62	0.782	-311	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/21/2011 11:40 Total Volume of Water purged:

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.55	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	1.22	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	14.62	Hydrogen Sulfide	NA
TDS (g/L)	0.782	Alkalinty	NA
ORP (mv)	-311		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260

Comments: Overcast Cool 47°

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-16A_102711 Well Diameter: 2 Inches

Samplers: J. Poulsen Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW = 3.74 TD 19.25

Method: Geopump/Low Flow Date/Time: 10/27/2011 13:00

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
13:00	3.74	200	0.0	7.50	3.20	47	3.26	11.82	2.09	-12	Clear
13:07	8.75	250	2.0	7.39	0.44	2.9	3.25	13.25	2.08	-5	Clear
13:12	10.55	300	3.5	7.43	0.00	2.0	3.26	13.12	2.08	2	Clear
13:18	12.30	250	5.0	7.44	0.00	18.3	3.25	13.08	2.08	-14	Clear
13:25	14.35	150	6.0	7.46	0.00	12.71	3.24	12.84	2.08	9	Clear
13:30	14.83	200	7.0	7.48	0.00	12.91	3.24	12.78	2.08	14	Clear
13:35	15>20	200	8.0	7.49	0.00	9.7	3.24	12.83	2.07	21	Clear
13:40	15.50	200	9.0	7.50	0.00	7.4	3.23	12.83	2.07	21	Clear
13:46	15.90	200	10.0	7.48	0.00	5.5	3.23	12.87	2.06	17	Clear
13:50	16.10	200	11.0	7.49	0.00	4.9	3.22	12.84	2.06	-2	Clear

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/27/2011 13:50 Total Volume of Water purged: 11 L

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.49	Ferrous Iron (mg/L)	0.5
Spec. Cond.(mS/cm)	3.22	Manganese	NA
Turbidity (NTU)	4.90	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	240
Temp.(°C)	12.84	Hydrogen Sulfide	0
TDS (g/L)	2.06	Alkalinty	22
ORP (mv)	-2.00		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B
BOD	1-500 mL plastic	None	SM5210B
COD	1-120 mL amber	H2SO4	EPA 410.4
Nitrate	1-40 mL glass	H2SO4	EPA 353.2
Nitrite	1-40 mL glass	None	EPA 354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500
Microbial	1-Filter	None	Lab SOP

Comments: This is page #1 for MW-16A MW-16A_102711 MS, MW-16A-102711 MSD Full MS/MSD Well drew down and dried up at 19.25 TOC

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-16A_110711 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Method: Geopump/Low Flow Date/Time: 11/7/2011 9:00

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
9:00	1763	200	0.00	5.21	5.48	230	3.05	13.74	1.95	49	
9:20				7.00	2.51	14.3	2.97	14.15	1.90	-10	
		WELL DRY									
14:15	19.00	CANNOT PURGE WATER									11/8/2011
		TD=19.4									

Sampling Data

Method: Low-flow peristaltic Date/Time: 11/7/2011 Total Volume of Water purged:

Field Parameters

HORRIBA		HACH TEST KITS	
pH		Ferrous Iron (mg/L)	0.5
Spec. Cond.(mS/cm)		Manganese	NA
Turbidity (NTU)		Sulfate	NA
DO (mg/L)		Carbon Dioxide	240
Temp.(°C)		Hydrogen Sulfide	0
TDS (g/L)		Alkalinty	22
ORP (mv)		* NOTE * HACH test kits are only required for MNA analysis wells.	

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B
BOD	1-500 mL plastic	None	SM5210B
COD	1-120 mL amber	H2SO4	EPA 410.4
Nitrate	1-40 mL glass	H2SO4	EPA 353.2
Nitrite	1-40 mL glass	None	EPA 354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500
Microbial	1-Filter	None	Lab SOP

Comments: Resample for BoD

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-16B_102511 Well Diameter: 2 Inches

Samplers: C. Betchan, R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
39.45 - 4.00

Method: Geopump/Low Flow Date/Time: 10/25/2011 12:50

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
12:50	4.00	250	0.0	7.68	3.23	65.7	1.10	16.74	0.709	-140	Clear
12:55	4.00	250	1.0	7.21	1.01	74.1	1.12	15.68	0.715	-156	
13:00	4.00	250	2.0	7.13	0.24	50.5	1.12	15.46	0.716	-169	
13:05	4.01	250	3.0	7.12	0.00	43.5	1.12	15.45	0.716	-175	
13:10	4.01	250	4.0	7.15	0.00	38.5	1.12	15.34	0.716	-180	
13:15	4.01	250	5.5	7.18	0.00	28.2	1.12	15.25	0.718	-183	
13:20	4.01	250	6.5	7.18	0.00	30.8	1.12	15.23	0.718	-185	
13:25	4.01	250	8.0	7.18	0.00	21.4	1.12	15.20	0.716	-186	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/25/2011 13:30 Total Volume of Water purged: 2.5 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.18	Ferrous Iron (mg/L)	0.40
Spec. Cond.(mS/cm)	1.12	Manganese	0.00
Turbidity (NTU)	21.40	Sulfate	-
DO (mg/L)	0.00	Carbon Dioxide	210
Temp.(°C)	15.20	Hydrogen Sulfide	0.3
TDS (g/L)	0.716	Alkalinty	300
ORP (mv)	-186		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
BOD	1-500 mL plastic	None	SM5210B
COD	1-120 mL amber	H2SO4	EPA 410.4
Dissolved Inorganics	1-500mL plastic	None	6010B
Nitrate	1-40 mL glass	H2SO4	EPA 353.2
Nitrite	1-40 mL glass	None	EPA 354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500

Comments: Overcast, Cool

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-17A_102411 Well Diameter: 2 Inches

Samplers: C. Betchan, J. Poulsen Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
16.1

Method: Geopump/Low Flow Date/Time: 10/24/2011 12:00

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
12:00	4.30	250	0.0								Clear
12:12	4.57	250	1.0	7.31	0.22	470	2.96	16.10	1.890	-86	
12:18	4.60	250	2.0	7.44	0.00	118	2.98	16.19	1.910	-94	
12:28	4.57	250	3.0	7.48	0.00	59	2.99	16.12	1.910	-95	
12:30	4.65	250	4.0	7.54	0.00	470	2.95	16.33	1.890	-98	
12:34	4.68	250	5.0	7.54	0.00	43	2.96	16.50	1.890	-104	
12:40	4.73	250	6.0	7.58	0.00	22	2.95	16.52	1.890	-107	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/24/2011 12:45 Total Volume of Water purged:

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.58	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	2.93	Manganese	NA
Turbidity (NTU)	16.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	16.59	Hydrogen Sulfide	NA
TDS (g/L)	1.87	Alkalinty	NA
ORP (mv)	-108		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
BOD	1-500mL plastic	None	5120B
COD	1-120mL amber glass	H2SO4	410.4
Dissolved Iron	1-500mL plastic	None	SW6010B
Nitrate	1-40mL glass	H2SO4	352.2
Nitrite	1-40mL glass	None	354.1
Suldife	1-500mL glass	NaOH/ZnAc	SM204500

Comments: Overcast Cool Scattered Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-17B_102611 Well Diameter: 2 Inches

Samplers: C. Betchan, R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
30.15

Method: Geopump/Low Flow Date/Time: 10/26/2011 10:45

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
10:45	4.86	250	0.0	7.07	0.86	0.0	0.218	12.70	0.142	-262	
10:50	4.88	250	2.0	6.93	0.07	98.3	1.07	14.13	0.676	-303	
10:55	4.88	250	3.0	6.96	0.00	0.00	0.770	14.32	0.045	-308	
11:00	4.88	250	5.0	6.99	0.00	0.00	0.049	14.35	0.044	-310	
11:05	4.88	250	6.0	7.01	0.00	0.00	1.84	14.32	1.49	-313	
11:10	4.88	250	8.0	7.01	0.00	0.00	0.055	14.22	0.045	-315	
11:15	4.88	250	9.5	7.02	0.00	0.00	3.56	14.23	2.28	-315	
11:20	4.91	250	10.5	7.01	0.00	0.00	3.69	14.22	2.37	-308	
11:25	4.91	250	11.5	7.04	0.00	0.00	3.76	14.43	2.39	-314	
11:30	4.91	250	13.0	7.17	0.00	0.00	3.75	14.39	2.40	-316	
11:35	4.91	250	14.0	7.18	0.00	0.00	3.82	14.38	2.44	-311	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/26/2011 11:50 Total Volume of Water purged:

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.18	Ferrous Iron (mg/L)	1
Spec. Cond.(mS/cm)	3.82	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	180
Temp.(°C)	14.38	Hydrogen Sulfide	3
TDS (g/L)	2.44	Alkalinty	400
ORP (mv)	-311		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
BOD	1-500mL plastic	None	5120B
COD	1-120mL amber glass	H2SO4	410.4
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Nitrate	1-40mL glass	H2SO4	352.2
Nitrite	1-40mL glass	None	354.1
Sulfide	1-500mL glass	NaOH/ZnAc	SM204500

Comments: Duplicate = MW-34B 13:10 Overcast Light Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-18A_102411 Well Diameter: 2 Inches

Samplers: Rob Piurek, C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW = 5.18 TD = 17.75

Method: Geopump/Low Flow Date/Time: 10/24/2011 13:20

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
13:20	5.18	250	0.00	7.84	1.48	108	0.863	16.30	0.552	-76	clear
13:25	6.08	250	0.50	7.68	0.01	2.30	0.540	16.37	0.540	-106	clear
13:30	6.24	250	0.75	7.67	0.00	0.00	0.536	16.41	0.536	-104	clear
13:35	6.25	200	1.20	7.67	0.00	0.00	0.835	16.33	0.534	-104	clear
13:40	6.30	200	1.40	7.66	0.00	0.00	0.836	16.33	0.535	-106	clear
13:45	6.35	200	1.75	7.66	0.00	0.00	0.837	16.39	0.536	-107	clear
13:50	6.40	200	2.25	7.65	0.00	0.00	0.836	16.38	0.535	-108	clear

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/24/2011 13:55 Total Volume of Water purged: ~2.3

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.65	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	0.836	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	16.38	Hydrogen Sulfide	NA
TDS (g/L)	0.535	Alkalinty	NA
ORP (mv)	-108		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Choride/Sulfate	2-40mL glass	None	Lab SOP
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Iron	1-500mL plastic	None	6010B
BOD	1-500 mL plastic	None	SM5210B
COD	1-120 mL amber	H2SO4	EPA 410.4
Nitrate	1-40 mL glass	H2SO4	EPA 353.2
Nitrite	1-40 mL glass	None	EPA 354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500

Comments:

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-18B_102511 Well Diameter: 2 Inches

Samplers: C. Betchan, R. Piurek Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
38.2

Method: Geopump/Low Flow Date/Time: 10/25/2011 9:00

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
9:00	5.56	250	0.0	5.57	2.48	22.6	1.20	11.59	0.764	-46	Clear
9:05	5.59	250	1.5	6.77	0.66	16.4	1.15	13.63	0.734	-105	
9:10	5.61	250	3.0	6.75	0.04	0.0	1.14	13.78	0.730	-113	
9:15	5.61	250	4.5	6.85	0.00	0.0	1.15	13.54	0.734	-110	
9:20	5.61	250	6.0	7.03	0.00	0.0	1.15	13.67	0.732	-119	
9:25	5.61	250	7.0	7.05	0.00	0.0	1.14	13.72	0.731	-122	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/25/2011 9:30 Total Volume of Water purged: 3.0 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.05	Ferrous Iron (mg/L)	1.20
Spec. Cond.(mS/cm)	1.14	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	152.20
Temp.(°C)	13.72	Hydrogen Sulfide	0.00
TDS (g/L)	0.731	Alkalinty	320.00
ORP (mv)	-122		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE & Propane	2-40mL glass	HCl	RSK-175
Bromide	2-40 mL glass	None	300.1
Chloride/Sulfate	2-40 mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
BOD	1-500 mL plastic	None	5120B
COD	1-120 mL amber	H2SO4	410.4
Dissolved Inorganics	1-500mL plastic	None	6010B
Nitrate	1-40 mL glass	H2SO4	353.2
Nitrite	1-40 mL glass	None	354.1
Sulfide	1-500 mL glass	NaOH/ZnAc	SM204500
Microbial	1-Filter	None	Lab SOP

Comments: Clear Sunny Cool. For Microbial - 1 Filter w/ 1000 mL Volume

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: MW-19B_112011 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Method: Geopump/Low Flow Date/Time: 11/20/2011 13:50

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
13:50	6.35	250	0.00	7.81	2.86	0.00	1.18	14.79	0.768	-219	
13:55	6.39	250	0.25	7.87	1.11	0.00	1.25	14.65	0.798	-255	
14:00	6.39	250	0.50	7.82	0.60	0.00	1.23	14.59	0.787	-265	
14:05	6.40	250	0.75	7.87	0.26	0.00	1.22	14.49	0.778	-274	
14:10	6.40	250	1.00	7.91	0.00	0.00	1.19	14.32	0.762	-280	
14:15	6.41	250	1.40	7.90	0.00	0.00	1.16	14.30	0.738	-282	
14:20	6.41	250	1.75	7.91	0.00	0.00	1.13	14.29	0.725	-283	
14:25	6.41	250	2.30	7.92	0.00	0.00	1.12	14.27	0.715	-283	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/20/2011 14:30 Total Volume of Water purged: 2.4 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.92	Ferrous Iron (mg/L)	NA
Spec. Cond.(mS/cm)	1.12	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	NA
Temp.(°C)	14.27	Hydrogen Sulfide	NA
TDS (g/L)	0.715	Alkalinty	NA
ORP (mv)	-283.00		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260

Comments: Overcast, Light Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-1U_110411 Well Diameter: 2 Inches

Samplers: R. Piurek, C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW = 8.28

Method: Geopump/Low Flow Date/Time: 11/4/2011 12:40

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
12:40	8.28	~200	0.0	7.16	3.90	244	0.881	16.45	0.564	-202	
12:45	9.68	~100	1.0	7.11	0.00	201	0.867	15.85	0.554	-231	
12:50	9.74	~100	2.0	7.11	0.00	127	0.866	15.74	0.554	-238	
12:55	9.78	~100	2.2	7.10	0.00	115	0.875	15.88	0.560	-242	
13:00	9.81	~100	2.9	7.10	0.00	96.7	0.880	15.96	0.563	-246	
13:05	9.88	~100	3.2	7.09	0.00	90.6	0.881	15.67	0.564	-248	
13:10	9.92	~100	3.9	7.09	0.00	91.1	0.890	15.76	0.570	-250	
13:15	9.95	~100	4.2	7.08	0.00	76.7	0.894	15.72	0.572	-252	
13:20	9.98	~100	5.0	7.08	0.00	75.5	0.897	15.72	0.575	-252	Odor

Sampling Data

Method: Geopump/Low Flow Date/Time: 11/4/2011 13:20 Total Volume of Water purged: ~1.25 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.08	Ferrous Iron (mg/L)	0.8
Spec. Cond.(mS/cm)	0.897	Manganese	NA
Turbidity (NTU)	75.50	Sulfate	NA
DO (mg/L)	0.00	* Carbon Dioxide	208 mg/L
Temp.(°C)	15.72	Hydrogen Sulfide	0.1
TDS (g/L)	0.575	Alkalinty	26 g/g
ORP (mv)	-252		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B

Comments: *11/11/11 - Resample on 11/11/11 for CO_2. About 2.5 L purged. CO_2 = 208 mg/L

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-1L_110411 Well Diameter: 2 Inches

Samplers: R. Piurek, C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
28.95

Method: Geopump/Low Flow Date/Time: 11/4/2011 11:00

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
11:00	8.85	~200	0.0	7.22	577	>800	0.968	16.00	0.619	-115	
11:05	8.30	~200	1.0	7.14	1.10	>800	0.964	15.48	0.617	-127	
11:10	-	~200	2.0	7.14	0.02	>800	0.960	15.63	0.613	-147	
11:15	-	~200	2.8	7.14	0.00	>800	0.962	14.93	0.616	-156	
11:20	-	~200	4.0	7.15	0.00	>800	0.968	14.74	0.619	-168	
11:25	-	~200	4.8	7.16	0.00	7.55	0.988	14.59	0.626	-192	
11:30	-	~200	5.8	7.16	0.00	727	0.976	14.52	0.625	-216	
11:35	-	~200	6.5	7.16	0.00	601	0.981	14.52	0.627	-234	
11:40	-	~200	7.0	7.16	0.00	520	0.980	14.46	0.628	-238	
11:45	-	~200	8.0	7.16	0.00	387	0.985	14.45	0.631	-253	
11:50	-	~200	9.1	7.16	0.00	288	0.987	14.46	0.632	-260	

Sampling Data

Method: Geopump/Low Flow Date/Time: 11/4/2011 11:50 Total Volume of Water purged: ~2.25 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.16	Ferrous Iron (mg/L)	0.4
Spec. Cond.(mS/cm)	0.987	Manganese	NA
Turbidity (NTU)	288	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	344 mg/L
Temp.(°C)	14.46	Hydrogen Sulfide	2.0
TDS (g/L)	0.632	Alkalinty	21 g/g
ORP (mv)	-260		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B

Comments: MS/MSD- short set. Packer used to isolate lower, Top of packer at 20' BTOC. Resample on 11/11/11 for CO_2. About 3.5L purged. CO_2 = 344 mg/L

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-2U_110411 Well Diameter: 2 Inches

Samplers: R. Piurek, C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW = 7.28

Method: Geopump/Low Flow Date/Time: 11/4/2011 8:55

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	NTU	mS/cm	°C	g/L	mv	
8:55	7.28	~100	0.0	6.12	201	419	0.867	8.55	0.555	-34	
9:00	8.25	~100	0.5	6.81	0.98	384	0.862	10.19	0.552	-65	
9:05	8.35	~100	0.8	6.92	0.24	348	0.869	10.15	0.556	-69	
9:10	8.38	~100	1.0	6.94	0.04	331	0.882	10.30	0.565	-72	
9:15	8.13	~100	1.2	6.96	0.00	299	0.894	10.52	0.573	-74	
9:20	8.92	~100	1.8	6.97	0.00	269	0.914	10.84	0.585	-75	
9:25	8.12	~100	2.0	6.98	0.00	243	0.926	11.08	0.593	-75	
9:30	8.46	~100	2.5	6.99	0.00	241	0.975	11.25	0.599	-75	
9:35	8.31	~100	3.0	6.99	0.00	241	0.953	11.58	0.610	-75	
9:40	8.52	~100	3.5	6.99	0.00	238	0.952	11.62	0.609	-75	

Sampling Data

Method: Geopump/Low Flow Date/Time: 11/4/2011 9:40 Total Volume of Water purged: ~1.25 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	6.99	Ferrous Iron (mg/L)	2
Spec. Cond.(mS/cm)	0.952	Manganese	NA
Turbidity (NTU)	238	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	460 mg/L
Temp.(°C)	11.62	Hydrogen Sulfide	0
TDS (g/L)	0.609	Alkalinty	32 g/g
ORP (mv)	-75	* NOTE * HACH test kits are only required for MNA analysis wells.	

SAMPLE SET

Parameter	Bottle	Pres.	Method
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B

Comments: Packer used to isolate upper zone - top of packer @ 20' BTOC. Resample on 11/11/11 for CO_2. About 2.5 L purged. CO_2 = 460 mg/L.

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-2L_110311 Well Diameter: 2 Inches

Samplers: R. Piurek, C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW = 7.71 TD = 26.6

Method: Geopump/Low Flow Date/Time: 11/3/2011 14:30

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
14:30	7.71	~100	0.0	7.34	2.09	418	0.879	14.89	0.565	-113	
14:35	7.38	~100	0.5	7.05	0.58	392	0.918	14.79	0.588	-119	
14:40	7.46	~100	1.0	6.96	0.11	345	0.937	14.65	0.600	-135	
14:45	7.50	~100	1.5	6.95	0.02	334	0.938	14.60	0.601	-139	
14:50	7.52	~100	2.0	6.94	0.00	317	0.938	14.56	0.601	1144	
14:55	7.55	~100	2.5	6.93	0.00	303	0.937	14.49	0.600	-150	
15:00	7.56	~100	3.0	6.93	0.00	290	0.936	14.40	0.599	-153	
15:05	7.55	~100	4.0	6.92	0.00	277	0.934	14.30	0.598	-153	
15:10	7.55	~100	4.5	6.92	0.00	268	0.932	14.24	0.597	-151	
15:15	7.55	~100	5.0	6.92	0.00	260	0.932	14.20	0.596	-149	
15:20	7.54	~100	5.5	6.91	0.00	254	0.931	14.12	0.596	-147	

Sampling Data

Method: Geopump/Low Flow Date/Time: 11/3/2011 15:20 Total Volume of Water purged: ~1.25 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	6.91	Ferrous Iron (mg/L)	2
Spec. Cond.(mS/cm)	0.931	Manganese	NA
Turbidity (NTU)	254	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	626
Temp.(°C)	14.12	Hydrogen Sulfide	0
TDS (g/L)	0.596	Alkalinty	24 g/g
ORP (mv)	-147		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B

Comments: Sampled below the packer at the bottom of the wall. Resample on 11/11/11 for CO_2 only, about 30 L pruged. CO_2 = 626 mg/L

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-3U_110711 Well Diameter: 2 Inches

Samplers: R. Piurek, C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Method: Geopump/Low Flow Date/Time: 11/7/2011 10:45

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
10:45	7.85	~100	0.0	7.49	4.56	75.5	1.01	15.27	0.647	-269	
10:50	9.08	~100	0.5	7.19	0.56	67.6	1.02	15.16	0.652	-293	
10:55	9.40	~100	0.8	7.18	0.00	61.7	1.02	15.14	0.653	-298	
11:00	9.66	~100	1.0	7.17	0.00	54.8	1.02	15.28	0.652	-302	
11:05	9.94	~100	1.5	7.17	0.00	48.5	1.02	15.42	0.652	-306	
11:10	10.17	~100	2.0	7.17	0.00	50.3	1.02	15.44	0.653	-309	
11:15	10.35	~100	2.5	7.15	0.00	49.4	1.02	15.55	0.653	-311	
11:20	10.50	~100	3.1	7.16	0.00	45.8	1.02	15.71	0.653	-315	

Sampling Data

Method: Geopump/Low Flow Date/Time: 11/7/2011 11:25 Total Volume of Water purged:

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.16	Ferrous Iron (mg/L)	0.6
Spec. Cond.(mS/cm)	1.02	Manganese	NA
Turbidity (NTU)	45.80	Sulfate	NA
DO (mg/L)	0.00	*Carbon Dioxide	250
Temp.(°C)	15.71	Hydrogen Sulfide	0.5
TDS (g/L)	0.653	Alkalinty	31 g/g
ORP (mv)	-315		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Microbials	1 Filter	None	Lab SOP

Comments: Top of Inflatable packer at 20' BTOC. Microbial - 1st Filter 225 mL, 2nd filter - 240 mL *Resample on 11/11/11 for CO_2. About 3 L purged. CO_2 = 250 mg/L

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-3L_110711 Well Diameter: 2 Inches

Samplers: R. Piurek, C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
DTW (?) = 8.18

Method: Geopump/Low Flow Date/Time: 11/7/2011 9:25

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
9:25	8.18	~100	0.0	7.28	1.72	43.3	1.24	14.36	0.785	-206	
9:30	7.20	~100	0.5	7.28	0.42	8.3	1.13	14.30	0.724	-236	
9:35	7.22	~100	1.0	7.25	0.14	5.4	1.08	14.20	0.695	-258	
9:40	7.25	~100	1.5	7.18	0.00	17.8	1.05	14.06	0.670	-271	
9:45	7.27	~100	2.0	7.16	0.00	19.8	1.05	14.02	0.669	-280	
9:50	7.29	~100	2.5	7.16	0.00	10.6	1.05	14.00	0.671	-286	
9:55	7.30	~100	3.0	7.16	0.00	9.6	1.05	13.99	0.674	-293	
10:00	7.31	~100	4.0	7.15	0.00	2.7	1.05	14.00	0.675	-299	
10:05	7.32	~100	4.8	7.15	0.00	1.5	1.06	14.06	0.677	-308	
10:10	7.33	~100	5.5	7.15	0.00	0.0	1.06	14.06	0.678	-311	

Sampling Data

Method: Geopump/Low Flow Date/Time: 11/7/2011 10:10 Total Volume of Water purged:

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.15	Ferrous Iron (mg/L)	0.0
Spec. Cond.(mS/cm)	1.06	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	0.00	*Carbon Dioxide	340
Temp.(°C)	14.06	Hydrogen Sulfide	1.0
TDS (g/L)	0.678	Alkalinty	22 g/g
ORP (mv)	-311		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Microbials	1 Filter	None	Lab SOP

Comments: Top of inflatable breaker at 20' BToC. Microbial - 1 Filter 1000 mL *Resample on 11/11/11 for CO_2. About 2L Purged. CO_2 = 340 mg/L

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-4_102611 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
30.07

Method: Geopump/Low Flow Date/Time: 10/26/2011 13:40

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
13:40	8.49	250	0.0	7.46	2.42	146	1.01	13.23	0.651	-75	
13:45	8.70	250	1.0	7.29	0.35	151	0.936	13.05	0.298	-71	
13:50	8.70	250	2.0	7.22	0.00	210	0.950	12.83	0.622	-75	
13:55	8.65	250	3.5	7.24	0.00	150	0.991	12.68	0.635	-75	
14:00	8.65	250	4.5	7.24	0.00	94.1	1.03	12.70	0.656	-76	
14:05	8.61	250	5.5	7.22	0.00	65.4	1.04	12.62	0.667	-76	
14:10	8.59	250	6.5	7.24	0.00	42.3	1.06	12.57	0.676	-77	
14:15	8.61	250	7.5	7.32	0.00	33.2	1.08	12.85	0.688	-80	
14:20	8.61	250	8.5	7.23	0.00	41.5	1.05	12.82	0.671	-76	
14:25	8.61	250	9.5	7.17	0.00	33.2	1.09	12.73	0.697	-78	
14:30	8.61	250	11.0	7.18	0.00	59.8	1.11	12.69	0.708	-80	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/26/2011 14:40 Total Volume of Water purged: 11 L

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.18	Ferrous Iron (mg/L)	1
Spec. Cond.(mS/cm)	1.11	Manganese	NA
Turbidity (NTU)	59.80	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	360
Temp.(°C)	12.69	Hydrogen Sulfide	0
TDS (g/L)	0.708	Alkalinty	180
ORP (mv)	-80		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber glass	H3PO4	5310C
DOC	1-120mL amber glass	None	5310B

Comments: Overcast Light Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-5_102711 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
32.15

Method: Geopump/Low Flow Date/Time: 10/27/2011 8:45

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
8:45	4.57	250	0.0	6.95	2.25	17.1	1.93	11.89	1.27	-188	
8:50	4.66	250	1.5	7.05	0.08	0.0	1.79	13.66	1.15	-277	
8:55	4.65	250	3.0	7.07	0.00	0.0	1.83	13.67	1.17	-349	
9:00	4.65	250	5.0	7.10	0.00	0.0	1.80	13.44	1.15	-368	
9:05	4.66	250	7.0	7.08	0.00	0.0	1.76	13.58	1.13	-404	
9:10	4.66	250	9.0	7.07	0.00	6.6	1.76	13.68	1.13	-416	
9:15	4.66	250	10.0	7.09	0.00	6.1	1.73	13.64	1.11	-420	Odor
9:20	4.66	250	11.5	7.11	0.00	5.0	1.70	13.51	1.09	-414	
9:25	4.66	250	13.0	7.12	0.00	4.9	1.69	13.52	1.08	-420	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/27/2011 9:35 Total Volume of Water purged: 3.5 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.12	Ferrous Iron (mg/L)	0.0
Spec. Cond.(mS/cm)	1.69	Manganese	NA
Turbidity (NTU)	4.90	Sulfate	NA
DO (mg/L)	0.00	Carbon Dioxide	460
Temp.(°C)	13.52	Hydrogen Sulfide	5+
TDS (g/L)	1.08	Alkalinty	18
ORP (mv)	-420		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
Dissolved Inorganics	1-500mL plastic	None	SW6010B
Microbials	1 Filter	None	Lab SOP

Comments: Microbial = 1000 mL Duplicate=PMW-10 (Analytes for VOCs & MEE only) 09:00 Overcast Cool

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-7_102711 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
30.09

Method: Geopump/Low Flow Date/Time: 10/27/2011 11:00

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
11:00	5.06	250	0.0	8.56	3.28	48.4	1.77	12.15	1.17	-233	
11:05	5.06	250	1.5	7.84	2.65	50.7	1.99	13.41	1.27	-209	
11:10	5.11	250	2.5	7.60	0.71	21.4	2.07	13.89	1.33	-234	
11:15	5.11	250	3.5	7.58	0.28	20.1	2.08	13.92	1.33	-243	Odor
11:20	5.11	250	4.5	7.48	0.00	1.6	2.04	13.93	1.30	-296	
11:25	5.11	250	6.0	7.34	0.00	0.0	1.96	13.87	1.25	-335	
11:30	5.11	250	7.5	7.27	0.00	0.0	1.91	13.84	1.27	-350	
11:35	5.11	250	9.0	7.25	0.00	0.0	1.86	13.94	1.19	-358	
11:40	5.11	250	10.5	7.21	0.00	0.0	1.84	13.88	1.18	-359	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/27/2011 11:55 Total Volume of Water purged: 3.5 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.21	Ferrous Iron (mg/L)	0
Spec. Cond.(mS/cm)	1.84	Manganese	
Turbidity (NTU)	0.00	Sulfate	
DO (mg/L)	0.00	Carbon Dioxide	290
Temp.(°C)	13.88	Hydrogen Sulfide	3.5
TDS (g/L)	1.18	Alkalinty	22
ORP (mv)	-359		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B
Dissolved Inorganics	2-40mL glass	None	SW6010B

Comments: Overcast Cool 39° F

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

LOW FLOW WELL SAMPLING RECORD

Site Name: *Hyde Park Facility* Well ID: PMW-8_102711 Well Diameter: 2 Inches

Samplers: C. Betchan Monitored Natural Attenuation Sample Set (Y/N)? Yes

Purging Data

WATER VOLUME CALCULATION
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot
36.88

Method: Geopump/Low Flow Date/Time: 10/27/2011 13:05

Time	DTW	Pump Rate	Vol.	pH	DO	Turbidity	Spec. Cond.	Temp.	TDS	ORP	Comments
24 hr.	ft.	ml/min.	L		mg/L	NTU	mS/cm	°C	g/L	mv	
13:05	4.92	250	0.0	9.69	2.58	25.6	0.888	13.30	0.567	-311	Odor
13:10	4.96	250	1.5	9.83	2.18	15.9	0.950	14.35	0.615	-290	
13:15	4.96	250	3.0	7.87	2.03	28	1.16	14.29	0.738	-251	
13:20	4.96	250	5.0	7.60	1.91	0.00	1.19	14.30	0.761	-255	
13:25	4.96	250	6.0	7.55	1.80	0.00	1.19	14.27	0.763	-252	
13:30	4.96	250	8.0	7.54	1.62	0.00	1.19	14.31	0.763	-249	
13:35	4.96	250	10.0	7.52	1.56	0.00	1.19	14.27	0.763	-247	
13:40	4.96	250	11.5	7.51	3.22	0.00	1.19	14.26	0.763	-246	
13:45	4.96	250	13.0	7.50	1.58	0.00	1.19	14.24	0.763	-244	
13:50	4.96	250	14.5	7.51	1.54	0.00	1.19	14.27	0.762	-244	
13:55	4.96	250	16.0	7.50	1.44	0.00	1.19	14.33	0.761	-240	

Sampling Data

Method: Geopump/Low Flow Date/Time: 10/27/2011 14:00 Total Volume of Water purged: 4.0 gal

Field Parameters

HORRIBA		HACH TEST KITS	
pH	7.50	Ferrous Iron (mg/L)	0.0
Spec. Cond.(mS/cm)	1.19	Manganese	NA
Turbidity (NTU)	0.00	Sulfate	NA
DO (mg/L)	1.44	Carbon Dioxide	940
Temp.(°C)	14.33	Hydrogen Sulfide	1.0
TDS (g/L)	0.761	Alkalinty	20
ORP (mv)	-240		

* NOTE * HACH test kits are only required for MNA analysis wells.

SAMPLE SET			
Parameter	**Bottle**	**Pres.**	**Method**
Select VOCs	3-40mL glass	HCl	EPA 8260
MEE	2-40mL glass	HCl	RSK-175
Bromide	2-40mL glass	None	300.1
Choride/Sulfate	2-40mL glass	None	300.1
TOC	1-120mL amber	H3PO4	5310C
DOC	1-120mL amber	None	5310B

Comments: Overcast Cool Light Rain

VOCs - PCE, TCE, cis and trans 1,2-DCE, 1,1-DCE, 1,1-DCA, 1,1,1-TCA, VC, and Chloroethane

PARSONS

APPENDIX C
FALL 2011 LABORATORY ANALYTICAL DATA

APPENDIX C
FALL 2011 LABORATORY ANALYTICAL DATA
FORMER CARBORUNDUM COMPANY, HYDE PARK FACILITY

Analytical Summary Table for Chemicals of Concern Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary			Overburden Wells			
		Location ID:	MW- 4A	MW- 5A	MW- 7A	MW-10A
		Sample ID:	MW-4A_102511	MW-5A_10/21/2011	MW-7A_102711	MW-10A_102511
		Lab Sample Id:	6449973	6446881	6453130	6449975
		Source:	LANCASTERLABS/MI	LANCASTERLABS	LANCASTERLABS/MI	LANCASTERLABS
		SDG:	BPP78/074IJ	BPP76	BPP80/074IJ	BPP78
		Matrix:	WATER	WATER	WATER	WATER
		Sampled:	10/25/2011 11:35	10/21/2011 14:20	10/27/2011 15:20	10/25/2011 15:00
		Validated:	1/9/2012	1/9/2012	1/9/2012	1/9/2012
CAS NO.	COMPOUND	UNITS:				
	VOLATILES					
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	5 U	5 U	5 U	5 U
75-34-3	1,1-DICHLOROETHANE	ug/l	18	5 U	22	7.7
75-35-4	1,1-DICHLOROETHENE	ug/l	3.8 J	5 U	5 U	1.2 J
75-00-3	CHLOROETHANE	ug/l	5 U	5 U	13	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	150	5.7	20	630
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	5 U	5 U	5 U	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	8.1	5 U	5 U	11
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	160	5 U	5 U	5 U
75-01-4	VINYL CHLORIDE	ug/l	73	3.3 J	19	250
74-85-1	ETHENE	ug/l	12	1.5 J	25	29
74-84-0	ETHANE	ug/l	5 U	5 U	57	5 U
74-82-8	METHANE	ug/l	170	9.6 J	20000	66
74-98-6	PROPANE	ug/l	5 U	5 U		5 U
	DISSOLVED METALS					
7429-90-5	ALUMINUM	mg/l	0.2 U	0.2 U	0.2 U	0.2 U
7440-38-2	ARSENIC	mg/l	0.02 U	0.02 U	0.02 U	0.02 U
7440-70-2	CALCIUM	mg/l	121	35	173	228
7439-89-6	IRON	mg/l	0.0146 J	0.0265 J	0.115 J	0.0808 J
7439-95-4	MAGNESIUM	mg/l	51.8	10.1	58	83.2
7439-96-5	MANGANESE	mg/l	0.0842	0.005 U	0.0647	0.179
7440-23-5	SODIUM	mg/l	60.9	220	38.3	282
	OTHER					
24959-67-9	BROMIDE	mg/l	2.5 U		2.5 U	
BOD	BIOCHEMICAL OXYGEN DEMAND (	mg/l	3.1 U	3.1 U		2.8 U
16887-00-6	CHLORIDE (AS CL)	mg/l	95.9 J	204	28.7	770 J
COD	COD - CHEMICAL OXYGEN DEMANI	mg/l	50 U	50 U		27 J
DOC	DISSOLVED ORGANIC CARBON	mg/l	1.6	1 U	24	1.2
14797-55-8	NITROGEN, NITRATE (AS N)	mg/l	0.1 U	0.75		0.1 U
14797-65-0	NITROGEN, NITRITE	mg/l	0.05 U	0.05 U		0.05 U
14808-79-8	SULFATE (AS SO4)	mg/l	263 J	164	57.1	254 J
18496-25-8	SULFIDE	mg/l	0.16 U	0.16 U		0.16 U
TOC	TOTAL ORGANIC CARBON	mg/l	2.1	1.5	25.1	1.9
	GENE ANALYSIS					
BVC	BVC	cells/mL	0.5 U		73.8	
DHB	DHB	cells/mL	8.8		258	
DHC	DHC	cells/mL	0.3 J		298	
TCE	TCE	cells/mL	0.5 U		226	
VCR	VCR	cells/mL	0.6		1070	

APPENDIX C
FALL 2011 LABORATORY ANALYTICAL DATA
FORMER CARBORUNDUM COMPANY, HYDE PARK FACILITY

Analytical Summary Table for Chemicals of Concern Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary			Overburden Wells			
		Location ID:	MW-12A	MW-16A	MW-17A	MW-18A
		Sample ID:	MW-12A_10/20/2011	MW-16A_102711	MW-17A_10/24/2011	MW-18A_10/24/2011
		Lab Sample Id:	6445744	6453118	6448121	6448122
		Source:	LANCASTERLABS	LANCASTERLABS/MI	LANCASTERLABS	LANCASTERLABS
		SDG:	BPP75	BPP80/074IJ	BPP77	BPP77
		Matrix:	WATER	WATER	WATER	WATER
		Sampled:	10/20/2011 15:40	10/27/2011 13:50	10/24/2011 12:45	10/24/2011 13:55
		Validated:	1/9/2012	1/9/2012	1/9/2012	1/9/2012
CAS NO.	COMPOUND	UNITS:				
	VOLATILES					
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	5 U	5 U	5 U	5 U
75-34-3	1,1-DICHLOROETHANE	ug/l	1.8 J	5 U	26	4.7 J
75-35-4	1,1-DICHLOROETHENE	ug/l	5 U	5 U	12	0.9 J
75-00-3	CHLOROETHANE	ug/l	5 U	5 U	5 U	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	19	11	160	42
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	5 U	5 U	5 U	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	5 U	5 U	1.2 J	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	5 U	5 U	11	23
75-01-4	VINYL CHLORIDE	ug/l	16	340	30	8.4
74-85-1	ETHENE	ug/l		44	3.2 J	5 U
74-84-0	ETHANE	ug/l		5 U	11	5 U
74-82-8	METHANE	ug/l		33	4900	19
74-98-6	PROPANE	ug/l		5 U	5 U	5 U
	DISSOLVED METALS					
7429-90-5	ALUMINUM	mg/l		0.0875 J	0.2 U	0.2 U
7440-38-2	ARSENIC	mg/l		0.02 U	0.02 U	0.0055 J
7440-70-2	CALCIUM	mg/l		344	130	123
7439-89-6	IRON	mg/l		0.0424 J	0.2 U	0.0478 J
7439-95-4	MAGNESIUM	mg/l		151	36.1	43.2
7439-96-5	MANGANESE	mg/l		2.24	0.0626	0.0664
7440-23-5	SODIUM	mg/l		184	426	29.4
	OTHER					
24959-67-9	BROMIDE	mg/l		2.5 U	2.5 U	2.5 U
BOD	BIOCHEMICAL OXYGEN DEMAND (	mg/l			5.1	2.1 U
16887-00-6	CHLORIDE (AS CL)	mg/l		266	1010	293
COD	COD - CHEMICAL OXYGEN DEMANI	mg/l		31.5 J	33.8 J	50 U
DOC	DISSOLVED ORGANIC CARBON	mg/l		6.9	3	1.8
14797-55-8	NITROGEN, NITRATE (AS N)	mg/l		0.1 U	0.1 U	0.1 U
14797-65-0	NITROGEN, NITRITE	mg/l		0.05 UJ	0.05 U	0.05 U
14808-79-8	SULFATE (AS SO4)	mg/l		1130	189	156
18496-25-8	SULFIDE	mg/l		0.16 U	0.16 U	0.16 U
TOC	TOTAL ORGANIC CARBON	mg/l		6.9	3.9	1.8
	GENE ANALYSIS					
BVC	BVC	cells/mL		0.5 U		
DHB	DHB	cells/mL		1220		
DHC	DHC	cells/mL		0.5 U		
TCE	TCE	cells/mL		0.5 U		
VCR	VCR	cells/mL		0.5 U		

Analytical Summary Table for Chemicals of Concern Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary			Bedrock Wells					
		Location ID:	MW- 2B	MW- 5B	MW- 6	MW- 7B	MW- 8	MW-10B
		Sample ID:	MW-2B_10/20/2011	MW-5B_10/21/2011	MW-6_10/20/2011	MW-7B_102611	MW-8_10/24/2011	MW-10B_102611
		Lab Sample Id:	6445742	6446882	6445741	6451588	6448120	6451585
		Source:	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS
		SDG:	BPP75	BPP76	BPP75	BPP79	BPP77	BPP79
		Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
		Sampled:	10/20/2011 11:40	10/21/2011 15:40	10/20/2011 10:35	10/26/2011 10:00	10/24/2011 11:50	10/26/2011 12:30
		Validated:	1/9/2012	1/9/2012	1/9/2012	1/9/2012	1/9/2012	1/9/2012
CAS NO.	COMPOUND	UNITS:						
	VOLATILES							
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	5 U	5 U	5 U	5 U	5 U	10 U
75-34-3	1,1-DICHLOROETHANE	ug/l	5 U	5 U	5 U	5 U	5 U	10 U
75-35-4	1,1-DICHLOROETHENE	ug/l	5 U	5 U	5 U	5 U	5 U	1.8 J
75-00-3	CHLOROETHANE	ug/l	5 U	5 U	5 U	5 U	5 U	10 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	1.8 J	48	33	6	1.9 J	960
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	5 U	5 U	5 U	5 U	5 U	10 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	5 U	5 U	5 U	5 U	5 U	11
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	5 U	5 U	5 U	5 U	5 U	10 U
75-01-4	VINYL CHLORIDE	ug/l	2.6 J	63	57	25	2.1 J	180
74-85-1	ETHENE	ug/l		5 U		3.6 J		24
74-84-0	ETHANE	ug/l		5 U		5 U		2.7 J
74-82-8	METHANE	ug/l		72		3400		300
74-98-6	PROPANE	ug/l		5 U				2.7 J
	DISSOLVED METALS							
7429-90-5	ALUMINUM	mg/l		0.2 U		0.2 U		0.2 U
7440-38-2	ARSENIC	mg/l		0.02 U		0.02 U		0.02 U
7440-70-2	CALCIUM	mg/l		157		133		156
7439-89-6	IRON	mg/l		0.0196 J		0.0747 J		0.0459 J
7439-95-4	MAGNESIUM	mg/l		59.4		48.7		57.3
7439-96-5	MANGANESE	mg/l		0.0936 J		0.102		0.0634
7440-23-5	SODIUM	mg/l		57.8		91.5		75.9
	OTHER							
24959-67-9	BROMIDE	mg/l				2.5 U		2.5 U
BOD	BIOCHEMICAL OXYGEN DEMAND (	mg/l		2.5 U				3.5 U
16887-00-6	CHLORIDE (AS CL)	mg/l		130		168		189
COD	COD - CHEMICAL OXYGEN DEMANI	mg/l		17.9 J				13.4 J
DOC	DISSOLVED ORGANIC CARBON	mg/l		4.5		5		3.1
14797-55-8	NITROGEN, NITRATE (AS N)	mg/l		0.1 U				0.1 U
14797-65-0	NITROGEN, NITRITE	mg/l		0.05 U				0.05 U
14808-79-8	SULFATE (AS SO4)	mg/l		358		218 J		259 J
18496-25-8	SULFIDE	mg/l		0.16 U				0.16 U
TOC	TOTAL ORGANIC CARBON	mg/l		4.9		8.4		3.4
	GENE ANALYSIS							
BVC	BVC	cells/mL						
DHB	DHB	cells/mL						
DHC	DHC	cells/mL						
TCE	TCE	cells/mL						
VCR	VCR	cells/mL						

Analytical Summary Table for Chemicals of Concern Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary			Bedrock Wells					
		Location ID:	MW-11B	MW-12B	MW-13B	MW-14B	MW-15	MW-16B
		Sample ID:	MW-11B_102611	MW-12B_10/20/2011	MW-13B_10/21/2011	MW-14B_10/24/2011	MW-15_10/21/2011	MW-16B_102511
		Lab Sample Id:	6451584	6445745	6446879	6448123	6446880	6449974
		Source:	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS
		SDG:	BPP79	BPP75	BPP76	BPP77	BPP76	BPP78
		Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
		Sampled:	10/26/2011 13:15	10/20/2011 16:20	10/21/2011 10:50	10/24/2011 15:10	10/21/2011 11:40	10/25/2011 13:30
		Validated:	1/9/2012	1/9/2012	1/9/2012	1/9/2012	1/9/2012	1/9/2012
CAS NO.	COMPOUND	UNITS:						
	VOLATILES							
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	5 U	5 U	5 U	5 U	5 U	5 U
75-34-3	1,1-DICHLOROETHANE	ug/l	1.8 J	5 U	5 U	5 U	1.4 J	5 U
75-35-4	1,1-DICHLOROETHENE	ug/l	5 U	5 U	5 U	5 U	5 U	5 U
75-00-3	CHLOROETHANE	ug/l	5 U	5 U	5 U	5 U	5 U	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	2.2 J	0.98 J	17	4.1 J	32	27
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	5 U	5 U	5 U	5 U	5 U	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	5 U	5 U	5 U	5 U	1.3 J	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	5 U	5 U	5 U	5 U	5 U	5 U
75-01-4	VINYL CHLORIDE	ug/l	4.6 J	5 U	24	5.4	52	43
74-85-1	ETHENE	ug/l	90			66		3.8 J
74-84-0	ETHANE	ug/l	5 U			5 U		5 U
74-82-8	METHANE	ug/l	1500			690		140
74-98-6	PROPANE	ug/l	5 U			5 U		5 U
	DISSOLVED METALS							
7429-90-5	ALUMINUM	mg/l	0.2 U			0.2 U		0.2 U
7440-38-2	ARSENIC	mg/l	0.02 U			0.0062 J		0.02 U
7440-70-2	CALCIUM	mg/l	134			117		150
7439-89-6	IRON	mg/l	0.0859 J			0.0264 J		0.2 U
7439-95-4	MAGNESIUM	mg/l	49.7			36.6		56
7439-96-5	MANGANESE	mg/l	0.0647			0.0439		0.072
7440-23-5	SODIUM	mg/l	82.9			96.5		76.5
	OTHER							
24959-67-9	BROMIDE	mg/l	2.5 U			2.5 U		2.5 U
BOD	BIOCHEMICAL OXYGEN DEMAND (	mg/l	8.9			5.2 U		2.6 U
16887-00-6	CHLORIDE (AS CL)	mg/l	157			260		134 J
COD	COD - CHEMICAL OXYGEN DEMANI	mg/l	31.5 J			36 J		50 U
DOC	DISSOLVED ORGANIC CARBON	mg/l	3.2			6.9		4
14797-55-8	NITROGEN, NITRATE (AS N)	mg/l	0.043 J			0.1 U		0.1 U
14797-65-0	NITROGEN, NITRITE	mg/l	0.05 U			0.05 U		0.05 U
14808-79-8	SULFATE (AS SO4)	mg/l	245 J			274		303 J
18496-25-8	SULFIDE	mg/l	8.5			3		0.38
TOC	TOTAL ORGANIC CARBON	mg/l	3.8			7		3.5
	GENE ANALYSIS							
BVC	BVC	cells/mL						
DHB	DHB	cells/mL						
DHC	DHC	cells/mL						
TCE	TCE	cells/mL						
VCR	VCR	cells/mL						

Analytical Summary Table for Chemicals of Concern Validated 2011 Baseline Sampling Event Former Carborundum Company, Hyde Park Facility Detected Compound Summary			Bedrock Wells			
				Dup of MW-17B		
		Location ID:	MW-17B	MW-34B	MW-18B	MW-19B
		Sample ID:	MW-17B_102611	MW-34B_102611	MW-18B_102511	MW-19B_10/20/2011
		Lab Sample Id:	6451586	6451587	6449972	6445743
		Source:	LANCASTERLABS	LANCASTERLABS	LANCASTERLABS/MI	LANCASTERLABS
		SDG:	BPP79	BPP79	BPP78/074IJ	BPP75
		Matrix:	WATER	WATER	WATER	WATER
		Sampled:	10/26/2011 11:50	10/26/2011 13:10	10/25/2011 9:30	10/20/2011 14:30
		Validated:	1/9/2012	1/9/2012	1/9/2012	1/9/2012
CAS NO.	COMPOUND	UNITS:				
	VOLATILES					
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	5 U	5 U	5 U	5 U
75-34-3	1,1-DICHLOROETHANE	ug/l	48	49	5 U	5 U
75-35-4	1,1-DICHLOROETHENE	ug/l	5 U	5 U	5 U	5 U
75-00-3	CHLOROETHANE	ug/l	1.4 J	1.4 J	5 U	5 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	19	19	150	8.7
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	5 U	5 U	5 U	5 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	0.82 J	0.88 J	0.9 J	5 U
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	5 U	5 U	5 U	5 U
75-01-4	VINYL CHLORIDE	ug/l	27	27	220	3.3 J
74-85-1	ETHENE	ug/l	81	88	4 J	
74-84-0	ETHANE	ug/l	70	77	5 U	
74-82-8	METHANE	ug/l	15000	14000	120	
74-98-6	PROPANE	ug/l	5 U	5 U	5 U	
	DISSOLVED METALS					
7429-90-5	ALUMINUM	mg/l	0.2 U	0.2 U	0.2 U	
7440-38-2	ARSENIC	mg/l	0.02 U	0.02 U	0.02 U	
7440-70-2	CALCIUM	mg/l	194	193	159	
7439-89-6	IRON	mg/l	0.102 J	0.0925 J	0.0657 J	
7439-95-4	MAGNESIUM	mg/l	57.5	57.4	59.1	
7439-96-5	MANGANESE	mg/l	0.0933	0.0932	0.0883	
7440-23-5	SODIUM	mg/l	430	429	64.4	
	OTHER					
24959-67-9	BROMIDE	mg/l	2.5 U	2.5 U	2.5 U	
BOD	BIOCHEMICAL OXYGEN DEMAND (I	mg/l	5.7	7	2.4 U	
16887-00-6	CHLORIDE (AS CL)	mg/l	966	944	114 J	
COD	COD - CHEMICAL OXYGEN DEMANI	mg/l	45.1 J	49.6 J	50 U	
DOC	DISSOLVED ORGANIC CARBON	mg/l	2.9	3.1	4.1	
14797-55-8	NITROGEN, NITRATE (AS N)	mg/l	0.1 U	0.1 U	0.1 U	
14797-65-0	NITROGEN, NITRITE	mg/l	0.05 U	0.05 U	0.05 U	
14808-79-8	SULFATE (AS SO4)	mg/l	154 J	152 J	305 J	
18496-25-8	SULFIDE	mg/l	4.5	4.6	0.16 U	
TOC	TOTAL ORGANIC CARBON	mg/l	3.2	3.4	3.9	
	GENE ANALYSIS					
BVC	BVC	cells/mL			1	
DHB	DHB	cells/mL			49.2	
DHC	DHC	cells/mL			78.6	
TCE	TCE	cells/mL			12.8	
VCR	VCR	cells/mL			488	