Heartland Environmental Associates, Inc.

QUARTERLY GROUNDWATER MONITORING REPORT

Sample Street Business Complex
3702 West Sample Street
South Bend, Saint Joseph County, Indiana 46619

VRP ID # 6120801

3rd Quarter 2013
July 1 – September 30, 2013

January 30, 2014

This report is prepared by:

Heartland Environmental Associates, Inc.
3410 Mishawaka Avenue, South Bend, IN 46615
574-289-1191 Fax: 574-289-7480

Prepared for:

Urban Enterprise Association of South Bend, Inc.
227 West Jefferson Boulevard
South Bend, Indiana 46601

For the Site:

Sample Street Business Complex
3702 West Sample Street
South Bend, Saint Joseph County, Indiana 46619
VRP ID # 6120801

Report prepared by:

John R. Barnhart
Heartland Environmental Associates, Inc.

1/30/2014
Date

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EXECUTIVE SUMMARY

Heartland Environmental Associates, Inc., (Heartland) has prepared this Quarterly Progress Report for the subject facility, known as the Sample Street Business Complex, located at 3702 West Sample Street, South Bend, St. Joseph County, Indiana. The Voluntary Remediation Program Identification (VRP ID) number is #612080.

The facility is being evaluated in accordance with the Indiana Department of Environmental Management (IDEM) Remediation Program on the behalf of the Urban Enterprise Association of South Bend, Inc. (UEA). Heartland has previously submitted a Remediation Work Plan (RWP) for the facility.

Twenty monitoring wells are sampled each quarter commencing in September 2013. Contaminants of Concern include benzene, toluene, ethylbenzene, total xylenes, tetrachloroethylene, trichloroethene, cis 1,2-dichloroethylene, trans 1,2-dichloroethylene, 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethylene, vinyl chloride.

Each quarter, sample analysis results are evaluated using the Remediation Closure Guide (RCG) Appendix A Screening Levels.

Groundwater samples for the current quarter were collected on September 25-27, 2013. Samples from all wells were collected using dedicated bailers. Samples were analyzed for Volatile Organic Compounds (VOCs) using U.S. EPA Method 8260.

Monitoring well water levels were measured during the current quarter sampling event and show that shallow groundwater flow is toward the northeast and that deep groundwater flow is to the west.

The current quarterly sampling results show that monitoring wells exhibiting concentrations of VOCs exceeding the RCG Screening Levels include W-9, W-12, W-100A, W-101A, W-101B, and W-10B.

1.0 SITE HISTORY

The Sample Street Business Complex was developed in 1928 as the Bantam Ball Bearing Corporation and was engaged in the manufacture of bearings. In 1935, the facility was acquired by the Torrington Company, who continued the manufacture of bearings. Torrington expanded the facility several times, last expanding in 1967. The site historically operated an approximately 333,000 square foot manufacturing facility on 15 acres of property. The site operated two underground storage tank (UST) areas and five storm water and cooling water ponds located at the south end of the property. The site ceased manufacturing operations in September 1983 and began site closure activities in preparation for sale of the property.

In June 1991, the Torrington Company transferred ownership of the site to the UEA of South Bend, Inc. The UEA currently owns and operates the facility as the Sample Street Business Complex, a small business, multi-tenant, manufacturing, warehousing, and office facility.

The site consists of four parcels with a total acreage of 15.02 acres. Two small parcels are located north of Sample Street and are used as parking lots. The main facility is located on two parcels, 9.0 and 4.25 acres in size, and is south of Sample Street.

The site is currently occupied by one large building with a covered loading dock and a small shed.

No hazardous materials are currently used or stored on-site.

2.0 SITE WORK COMPLETED TO DATE

Environmental investigations completed by Canonie Engineers, Harza Environmental, Best Environmental, Capsule Environmental, Law Engineering, and Heartland have documented the presence of chemical impacts to soil and groundwater at the Sample Street Business Complex.

In 1984, in preparation for site closure, the Torrington Company had an environmental assessment conducted at the facility. Preliminary screening showed there were three areas of concern. Further investigations were conducted in the areas of the storm drainage ponds, the former UST areas, and an area of trichloroethane (TCA) impacted soil on the southwest corner of the building.

As part of closure activities, water and sediment samples were collected from the storm water drainage ponds. No evidence of impacts was found at that time. Subsequently, storm water drainage Ponds #2, #3, #4, and #5 were filled in. The #1 Pond was retained to accept roof drainage from the facility building.

According to the IDEM records, five USTs, in two separate areas, were formerly present onsite. According to the UST Notification form filed in 1986, UST#1 had a capacity of 8,000-gallons and contained Stoddard Solvent, UST #2 had a capacity of 8,000-gallons and contained cutting oil, UST #3 had a capacity of 12,000-gallons and contained cutting oil, USTs #4 and #5 had capacities of 20,000-gallons each and contained fuel oil. USTs #1 and #2 were located near the southeast corner of the main building. USTs #3, #4, and #5 were located under an earthen mound near the southwest corner of the main building.

All USTs were removed in 1986. The UST removal notification form states that the date of installation of the five USTs was unknown. Two Stoddard Fluid and cutting oil USTs were located under a concrete pad on the southeast corner of the building. No evidence of impacts was noted during the removal of those USTs. Three cutting oil and heating oil USTs were located under an earthen mound at the southwest corner of the building. Evidence of soil impacts was noted in the soils around a UST under the earthen mound. Impacted soils were excavated and removed from the site. Further soil impacts were found in soils around the cutting oil and heating oil USTs. Approximately 1700 cubic yards of soils were excavated from the area of the product lines and removed from the site.

According to subsequent ESA reports (Best, 1990, 1991 and Capsule, 1991), during UST removal, petroleum impacted soils were found around the fuel oil tanks and along product line piping runs. Impacted soils were excavated and removed. Tank pits were backfilled with clean fill.

According to the ESA reports, no spills or chemical releases, other the UST release, have been documented. It is likely that impacts originating from operation of the storm water drainage ponds or from other sources were accumulative impacts resulting from small releases over the operational life of the facility (1928 through 1983).

In 1994, Capsule Environmental recommended an AS/SVE remediation system to remediate VOC impacts in soil and groundwater at the Torrington Facility. A pilot test was conducted and in January 1995, Capsule prepared a system design and contract bid specification package. Capsule also prepared a Corrective Action Plan (CAP) for the site. Two separate AS/SVE systems were installed in 1995-1996 and began operation in 1996. The systems included 24 vapor extraction vents and 6 air-sparging points. The vents and sparge points were installed in three areas, Area A, Area B, and Area S3.

Area A included the northeast portion of the main building. Nine extraction vents and two air sparge points were installed in Area A.

Area B included the northwest portion of the main building. Four extraction vents and one air sparge point were installed in Area B.

Area S3 included the southwest portion of the main building and the area around monitoring well S-3 on the southwest corner of the building. Eleven extraction vents and three sparge points were installed in Area S3.

The system was designed for unattended operation with automatic controls and an auto dialer system to alert the operators in case of system malfunction. A regular schedule of operations and maintenance was specified to ensure the continuous operation of the system. A regular schedule of air and groundwater sampling was also specified to determine the system efficacy.

The system was in operation from 1996 through 1998. The 1998 annual system effectiveness report indicated that the system was running efficiently with a 90% run time. However, free product petroleum was still present in the groundwater monitoring wells at the loading dock and both TCE and PCE were still present at elevated concentrations throughout the site. No additional documentation was available after 1998 regarding system operation or system closure.

In 2011, Heartland conducted a limited Phase II ESA to evaluate the presence/absence of chemical contaminants at the facility and to evaluate the effectiveness of the remediation system that had been installed in 1995 and operated through 1998.

In 2012, the Urban Enterprise Association of South Bend, Inc. (UEA) applied to enroll the site in the Indiana Voluntary Remediation Program (VRP).

In 2013, A Remediation Work Plan was submitted to the IDEM, additional off-site monitoring wells were installed, and quarterly monitoring of groundwater commenced.

3.0 QUARTERLY RESULTS

3.1 Groundwater Elevation and Flow Direction

Static water levels at the subject site were measured September 25-27, 2013. The static water level data were used to calculate groundwater surface elevations based on the measured depth to groundwater from the top of each well casing surveyed to a relative arbitrary site benchmark elevation of 100.00 feet. The static water level data and calculated groundwater elevations are shown in Table 1. Maps showing the potentiometric surface of the groundwater and the groundwater flow direction based on the static water level data are provided in Figures 2 and 3 in Appendix A. Historical groundwater elevation data are tabulated in Appendix B.

Table 1: Groundwater Elevation Data

Well	Date	Relative Casing Elevation	Well Depth	Depth to Groundwater	Relative Groundwater Elevation
S-3	9/25/2013	710.12	50.10	7.81	702.31
W-1	9/26/2013	713.09	62.90	10.82	702.27
W-100A	9/26/2013	713.62	33.98	10.64	702.98
W-100B	9/26/2013	713.70	50.90	10.71	702.99
W-101A	9/26/2013	714.12	34.64	11.20	702.92
W-101B	9/26/2013	714.09	46.35	11.19	702.90
W-10A	9/27/2013	714.53	62.10	12.54	701.99
W-10B	9/27/2013	714.59	31.31	12.61	701.98
W-12	9/26/2013	712.83	29.26	10.57	702.26
W-13	9/27/2013	713.95	35.48	11.57	702.38
W-14A	9/26/2013	715.50	60.95	12.94	702.56
W-14B	9/27/2013	714.94	44.13	13.51	701.43
W-15A	9/26/2013	714.50	35.30	12.41	702.09
W-15B	9/26/2013	713.84	11.18	Dry	
W-16	9/26/2013	715.30	60.55	13.25	702.05
W-3	9/26/2013	712.59	58.03	9.61	702.98
W-5	9/25/2013	713.32	36.32	10.97	702.35
W-7	9/25/2013	714.02	31.90	11.24	702.78
W-8	9/25/2013	713.71	59.92	11.47	702.24
W-9	9/25/2013	714.71	53.28	12.25	702.46

Monitoring well W-15B could not be measured – no water was present.

Water levels in shallow wells with screen bottom elevations of 682.5 to 703 feet are shown in Figure 2. Groundwater flow in the shallow wells is southwest to northeast. Water levels in deep wells with

screen bottoms of 654 to 682.5 feet are shown in Figure 3. Groundwater flow in the deeper wells is from east to west.

3.2 Groundwater Sampling Results

On September 25-27, 2013, groundwater samples were collected from twenty on-site monitoring wells. All monitoring wells were sampled using low-flow sampling technology. Samples were collected and decanted into clean, new 40-ml VOA vials with HCl preservative, labeled, and placed in a secure cooler (at four degrees Celsius) for transport.

The groundwater samples were submitted to Envision Laboratories, Inc. in Indianapolis, Indiana, via overnight courier, where they were analyzed for VOCs using U.S. EPA Method 8260. The analysis was completed within its standard holding times. The VOC analytical data are summarized in Table 2 and Figure 4, Appendix A. The historic groundwater analytic data are tabulated in Appendix C. The laboratory certificates of analysis and chains of custody are included in Appendix D.

Well covers and compression caps for all monitoring wells were inspected for damage and/or deterioration during the current sampling event. Compression caps were cleaned and checked for fit. No repairs or replacements were necessary at that time.

Table 2. Groundwater Chemistry Quarterly Summary

Sample Location	Date Sampled	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylene (Total) µg/L	cis-1,2-Dichloroethene µg/L	trans-1,2-Dichloroethene µg/L	Tetrachloroethene µg/L	Trichloroethene µg/L	Vinyl Chloride µg/L	1,1,1-Trichloroethane µg/L	1,1-Dichloroethane µg/L	1,1-Dichloroethene µg/L
RCG Residential Groundwater Ingestion Screening Level		5	1,000	700	10,000	70	100	5	5	2.00	200	24	7
W-5	9/25/13	<5	<5	<5	<10	<5	< 5	**6.82**	<5	<2	<5	<5	<5
W-9	9/25/13	<5	<5	<5	<10	<5	< 5	**5.27**	<5	<2	<5	<5	<5
W-7	9/25/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
W-8	9/25/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
S-3A	9/25/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
S-3B	9/25/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
W-12	9/26/13	<5	<5	<5	<10	6.43	< 5	<5	<5	<2	<5	<5	**9.14**
W-1	9/26/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
W-3	9/26/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
W-100A	9/26/13	<5	<5	<5	<10	7.86	< 5	<5	<5	<2	<5	<5	**8.74**
W-100B	9/26/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
W-101A	9/26/13	<5	<5	<5	<10	5.79	< 5	<5	<5	<2	<5	<5	**8.92**
W-101B	9/26/13	<5	<5	<5	<10	6.01	< 5	<5	<5	**2.83**	<5	<5	<5
W-16	9/26/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
W-15A	9/26/13	<5	<5	<5	<10	11.8	< 5	<5	<5	<2	<5	<5	<5
W-14A	9/26/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
W-14B	9/27/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
W-13	9/27/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
W-10B	9/27/13	<5	<5	<5	<10	5.37	< 5	<5	**7.9**	<2	67.1	13.7	**10.1**
W-10A	9/27/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5
TRIP BLANK	9/25/13	<5	<5	<5	<10	<5	< 5	<5	<5	<2	<5	<5	<5

Concentrations exceeding the Residential Ingestion Screening Level are shown in bold

4.0 DISCUSSION

Based on water levels measured September 25-27, 2013, Groundwater flow in shallow wells with screen bottom elevations of 682 to 703 feet is southwest to northeast. Groundwater flow in deep wells with screen bottoms of 654 to 682 feet is from east to west. Water level are shown on Figures 2 and 3, Appendix A. Water levels have decreased an average of 1.73 feet since the previous measurement in April 2013.

Low-flow sampling had been performed at the site to reduce the turbidity of groundwater samples and to minimize the volume of purge water. Low-flow data sheets are included in Appendix E.

All monitoring wells samples were analyzed for VOCs and evaluated using the RCG Appendix A Screening Levels.

The on-site monitoring wells M-5 and W-9, located south of the main building in the area of the former ponds, both exhibited concentrations of tetrachloroethene (aka perchloroethylene or PCE) that exceeded the RCG Screening Level for groundwater.

The on-site monitoring well W-10B, on the north side of the main building, exhibited concentrations of 1,1-dichloroethene (1,1-DCE) and trichloroethene (TCE) that exceeded the RCG Screening Levels.

The on-site monitoring well W-12, located on the east side of the main building, exhibited a concentration of 1,1-dichloroethene (1,1-DCE) that exceeded thee RCG Screening Level.

The off-site monitoring well W-100A, located southeast of the main building on the Jupiter Aluminum property, exhibited a concentration of 1,1-dichloroethene that exceeded the RCG Screening Level.

The off-site monitoring well W-101A, located east of the main building on the Jupiter Aluminum property, exhibited a concentration of 1,1-dichloroethene (1,1-DCE) that exceeded the RCG Screening Level.

The off-site monitoring well W-101B, located east of the main building on the Jupiter Aluminum property, exhibited a concentration of vinyl chloride (VC) that exceeded the RCG Screening Level.

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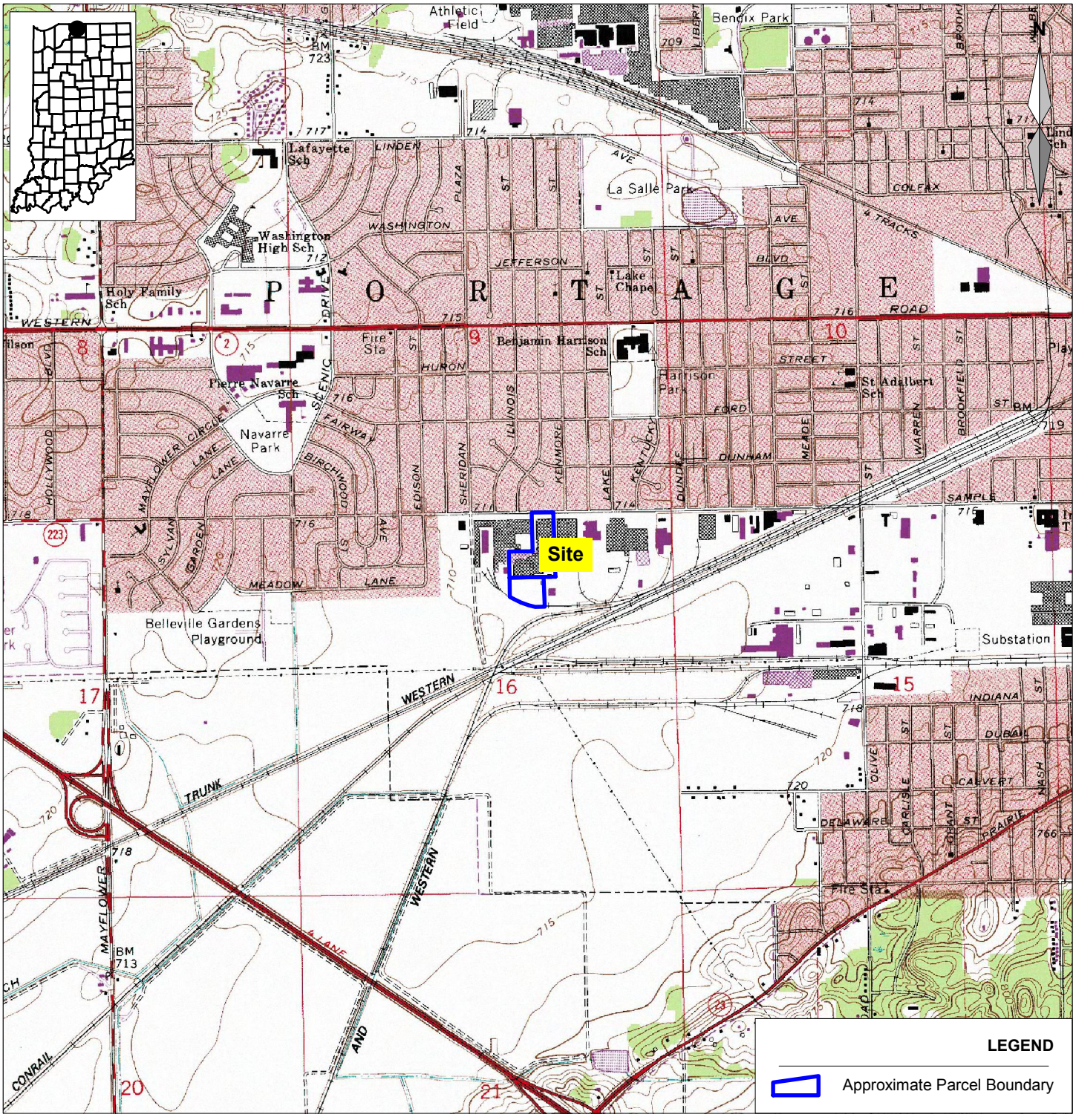
6.0 LIMITATIONS

In preparing this report, Heartland Environmental Associates, Inc., has applied generally accepted professional practices and standards and has exercised its professional judgment, skills, and care in a manner consistent with that of other professionals performing similar work under similar conditions. All information, conclusions, and recommendations contained in this report are necessarily governed by site conditions and the scope of the work. However, due to the nature of the work, Heartland Environmental Associates, Inc. does not assume and specifically disclaims any and all responsibility and/or liability for damages of any kind suffered by any individual or entity and is not responsible for the independent conclusions, opinions, or recommendations made by others regarding this report. No warranties, expressed or implied are given or made.

APPENDIX A

Figures



Location
Saint Joseph County, Portage Township
SOUTH BEND WEST Quadrangle
Section 16 T 37N R 2E

Parcel boundaries, as shown, are approximate and are not suitablefor conveyance or property boundary descriptions. This data should not be used as a substitute for a professional land survey.

Base map: U.S. Geological Survey Digital Raster Graphic

Heartland Environmental Associates, Inc.
3410 Mishawaka Ave.
South Bend, IN 46615

Figure 1
Topographic Map
Sample Street Business Complex
3702 West Sample Street
South Bend, Indiana 46619

Client:
Urban Enterprise Assoc., of South Bend, Inc.

Date:
4/5/2013

Drawn by:
JRB

Scale:
1 in : 2000.00 ft

N

Parking Lot

Parking Lot

W-16

W-15B W-15A

701.43

W-14B W-14A

West Sample Street

702.00

701.50

W-10A

W-10B 701.98

702.50

RACO

Jupiter Aluminum Corp.

703.00

702.78

W-7

W-8

PW-3

702.26 W-12

W-101A & 101B

W-13

Main Building (Former Torrington)

Former Waste Oil Tank

S-3A

S-3D

S-3

S-3B

RW-1

S3-C

Loading Dock

Loading Dock

W-1

Former Oil & Stoddard Fluid USTs

Former Quench Oil Tank

W-100A & 100B

W-3

Former Fuel Oil & Stoddard Fluid USTs

Former Shed

Former Solvent Still

Former Foundry Building

Pond #4 (Backfilled)

Pond #5 (Backfilled)

Pond #3 (Backfilled)

Pond #2 (Backfilled)

Pond #1

W-9

LEGEND

- Monitoring Well
- Parcel Boundary
- Former UST

Groundwater Surface in wells with screen bottom elevations between elevations of 682.5 to 703 feet.

SCALE feet

0 100 200

Heartland Environmental Associates, Inc.
3410 Mishawaka Ave.
South Bend, Indiana 46615

Figure 2
Potentiometric Surface
Shallow Wells
Measured 9/25 - 9/27/2013

Sample Street Business Complex
3702 West Sample Street
South Bend, Indiana

Client: Urban Enterprise Association of South Bend, Inc.

Date: 1/31/2014

Drawn by: JRB

N

W-16
702.05

Parking Lot

Parking Lot

702.09
W-15B W-15A

702.56
W-14B W-14A

West Sample Street

702.40

W-10A
W-10B

RACO

Jupiter Aluminum Corp.

702.80

W-12
702.92 702.90
W-101A & 101B

W-7
W-8
702.78

702.60

PW-3

W-13
702.38

Former Waste Oil Tank

S-3A
S-3D
S-3 702.31
S-3B
RW-1
S3-C

Main Building (Former Torrington)

Loading Dock

W-1

Former Oil & Stoddard Fluid USTs

Former Quench Oil Tank

702.98 702.99
W-100A & 100B

W-3
702.98

Loading Dock

Former Fuel Oil & Stoddard Fluid USTs

Former Shed

Former Solvent Still

Former Foundry Building

Pond #4 (Backfilled)
702.35

Pond #3 (Backfilled)

Pond #2 (Backfilled)

Pond #1

Pond #5 (Backfilled)

702.60

702.80

W-9
702.46

LEGEND

- Monitoring Well
- Parcel Boundary
- Former UST

Groundwater Surface in wells with screen bottom elevations between elevations of 654 to 682.5 feet.

SCALE
feet
0 100 200

Heartland Environmental Associates, Inc.
3410 Mishawaka Ave.
South Bend, Indiana 46615

Figure 3
Potentiometric Surface
Deep Wells
Measured 9/25 - 9/27/2013

Sample Street Business Complex
3702 West Sample Street
South Bend, Indiana

Client:
Urban Enterprise Association of South Bend, Inc.

Date: 1/31/2014

Drawn by: JRB

N

W-16

Parking Lot

Parking Lot

W-15B W-15A

W-14B W-14A

West Sample Street

W-10B
PCE ND
1,1-DCE 10.1
TCE 7.9
VC ND

W-10A
W-10B

RACO

Jupiter Aluminum Corp.

W-12
PCE ND
1,1-DCE 9.14
TCE ND
VC ND

W-7
W-8

PW-3

W-101A & 101B

W-101A
PCE ND
1,1-DCE 8.92
TCE ND
VC ND

W-101B
PCE ND
1,1-DCE ND
TCE ND
VC 2.83

W-13

Main Building (Former Torrington)

Loading Dock

Former Waste Oil Tank

S-3A
S-3D
S-3
702.31
S-3B
RW-1
S3-C

W-1

Former Oil & Stoddard Fluid USTs

Former Quench Oil Tank

W-100A
PCE ND
1,1-DCE 8.74
TCE ND
VC ND

W-100A & 100B

W-3

Loading Dock

Former Shed

Former Solvent Still

Former Fuel Oil & Stoddard Fluid USTs

Former Foundry Building

Pond #4 (Backfilled)

Pond #3 (Backfilled)

Pond #2 (Backfilled)

Pond #1

Pond #5 (Backfilled)

W-5
PCE 6.82
1,1-DCE ND
TCE ND
VC ND

W-9
PCE 5.27
1,1-DCE ND
TCE ND
VC ND

W-9

Abbreviations
PCE = Tetrachloroethene
1,1-DCE = 1,1-Dichloroethene
TCE = Trichloroethene
VC = Vinyl Chloride

LEGEND
- Monitoring Well
- Parcel Boundary
- Former UST

Only monitoring well analytic results with detected concentrations of COCs that exceed the RCG Screening Levels are shown

SCALE
feet
0 100 200

Heartland Environmental Associates, Inc.
3410 Mishawaka Ave.
South Bend, Indiana 46615

Figure 4
Groundwater Analytical Results Collected 9/25 - 9/27/2013

Sample Street Business Complex
3702 West Sample Street
South Bend, Indiana

Client: Urban Enterprise Association of South Bend, Inc.

Date: 1/30/2014

Drawn by: JRB

APPENDIX B

Historic Groundwater Elevation Data Tables

Historical Water Level Measurements

Well	Date	Relative Casing Elevation	Well Depth	Depth to Groundwater	Relative Groundwater Elevation
S-3	4/1/2013	710.12	50.10	8.90	701.22
W-1	4/1/2013	713.09	62.90	8.71	704.38
W-100A	4/1/2013	713.62	33.98	8.47	705.15
W-100B	4/1/2013	713.70	50.90	8.54	705.16
W-101A	4/1/2013	714.12	34.64	9.19	704.93
W-101B	4/1/2013	714.09	46.35	9.18	704.91
W-10A	4/1/2013	714.53	62.10	10.78	703.75
W-10B	4/1/2013	714.59	31.31	10.85	703.74
W-12	4/1/2013	712.83	29.26	8.66	704.17
W-13	4/1/2013	713.95	35.48	9.70	704.25
W-14A	4/1/2013	715.50	60.95	11.34	704.16
W-14B	4/1/2013	714.94	44.13	11.88	703.06
W-15A	4/1/2013	714.50	35.30	10.76	703.74
W-15B	4/1/2013	713.84	11.18	10.13	703.71
W-16	4/1/2013	715.30	60.55	11.64	703.66
W-3	4/1/2013	712.59	58.03	7.48	705.11
W-5	4/1/2013	713.32	36.32	8.98	704.34
W-7	4/1/2013	714.02	31.90	9.38	704.64
W-8	4/1/2013	713.71	59.92	9.62	704.09
W-9	4/1/2013	714.71	53.28	10.13	704.58
S-3	9/25/2013	710.12	50.10	7.81	702.31
W-1	9/26/2013	713.09	62.90	10.82	702.27
W-100A	9/26/2013	713.62	33.98	10.64	702.98
W-100B	9/26/2013	713.70	50.90	10.71	702.99
W-101A	9/26/2013	714.12	34.64	11.20	702.92
W-101B	9/26/2013	714.09	46.35	11.19	702.90
W-10A	9/27/2013	714.53	62.10	12.54	701.99
W-10B	9/27/2013	714.59	31.31	12.61	701.98
W-12	9/26/2013	712.83	29.26	10.57	702.26
W-13	9/27/2013	713.95	35.48	11.57	702.38
W-14A	9/26/2013	715.50	60.95	12.94	702.56
W-14B	9/27/2013	714.94	44.13	13.51	701.43
W-15A	9/26/2013	714.50	35.30	12.41	702.09
W-15B	9/26/2013	713.84	11.18	Dry	702.26
W-16	9/26/2013	715.30	60.55	13.25	702.05
W-3	9/26/2013	712.59	58.03	9.61	702.98
W-5	9/25/2013	713.32	36.32	10.97	702.35
W-7	9/25/2013	714.02	31.90	11.24	702.78
W-8	9/25/2013	713.71	59.92	11.47	702.24
W-9	9/25/2013	714.71	53.28	12.25	702.46

APPENDIX C

Historic Analytical Data Summary Tables

Historical Summary of Groundwater Chemisty

Sample Location	Date Sampled	1,1,1-Trichloroethane µg/L	1,1,2,2-Tetrachloroethane µg/L	1,1,2-Trichloroethane µg/L	1,1-Dichloroethane µg/L	1,1-Dichloroethene µg/L	1,2,4-Trimethylbenzene µg/L	1,2-Dibromoethane (EDB) µg/L	1,2-Dichlorobenzene µg/L	1,2-Dichloroethane µg/L	1,2-Dichloropropane µg/L	1,3,5-Trimethylbenzene µg/L	1,4-Dichlorobenzene µg/L	2-Butanone (MEK) µg/L	Acetone µg/L	Benzene µg/L	Carbon Tetrachloride µg/L	Chloroethane (Ethyl Chloride) µg/L	cis-1,2-Dichloroethene µg/L	Bromodichloromethane µg/L	Ethylbenzene µg/L	Isopropylbenzene (Cumene) µg/L	Methylene Chloride µg/L	Naphthalene µg/L	n-Butylbenzene µg/L	n-Propylbenzene µg/L	Tetrachloroethene µg/L	Toluene µg/L	trans-1,2-Dichloroethene µg/L	Trichloroethene µg/L	Trichlorofluoromethane µg/L	Vinyl Chloride µg/L	Xylene (Total) µg/L	Mineral Spirits µg/L
RCG Residential Groundwater Ingestion		200	0.66	5	24	7	15	0.05	600	5	5	87	75	4900	12,000	5	5	21000	70	80	700	390	5	1.4	780	530	5	1,000	100	5	1,100	2.00	10,000	NA
T-3	Aug-84	ND	ND	NA	ND	ND				ND					NA			ND	NA	ND			ND				ND	ND	ND	ND		ND		ND
S-3	Sep-84	**4900**	ND	NA	**3230**	**150**				ND					NA			<10	NA	<10			ND				ND	ND	ND	**<10**		**<10**		175
W-1	Sep-84	ND	ND	NA	ND	ND				ND					NA			ND	NA	ND			ND				ND	ND	ND	ND		ND		<100
W-2	Sep-84	30	ND	NA	**30**	ND				ND					NA			ND	NA	ND			ND				ND	ND	ND	ND		ND		<100
W-3	Sep-84	ND	ND	NA	ND	ND				ND					NA			ND	NA	ND			ND				ND	ND	ND	ND		ND		<100
W-4	Sep-84	**285**	ND	NA	**65**	**20**				ND					NA			ND	NA	ND			ND				ND	ND	ND	ND		ND		<100
W-5	Sep-84	55	ND	NA	14	ND				ND					NA			ND	NA	ND			ND				ND	ND	ND	ND		ND		<100
T-3	1984	ND	ND	NA	ND	ND				ND					NA			ND	NA	ND			ND				2.6	ND	ND	ND		ND		NA
W-8	Sep-84	ND	ND	NA	ND	ND				ND					NA			ND	NA	ND			ND				ND	ND	ND	ND		ND		ND
S-3	Oct-84	**6000**	ND	NA	**3100**	**170**				ND					NA			<10	NA	**220**			ND				ND	ND	ND	**<10**		**<10**		12
S-3	Oct-84	**1300**	ND	NA	**740**	**29**				ND					NA			180	NA	<10			ND				ND	ND	ND	**<10**		ND		22
W-7	Oct-84	72	**<10**	NA	**97**	**28**				ND					NA			ND	NA	ND			ND				ND	<10	<10	**<10**		ND		510
S-3	Nov-84	**1300**	ND	NA	**940**	**25**				ND					NA			75	NA	<1			ND				ND	ND	ND	2		**3**		NA
W-7	Nov-84	12	**<1**	NA	12	2				ND					NA			ND	NA	ND			ND				ND	10	3	1		ND		NA
W-7	Dec-84	83	**20**	NA	**65**	**55**				ND					NA			ND	NA	ND			ND				ND	<10	<10	**<10**		ND		265
W-7	Dec-84	<0.5	<0.5	NA	16	1.3				ND					NA			ND	NA	ND			ND				ND	<0.5	<0.5	<0.5		ND		NA
S-3	Apr-86	**510**	NA	NA	ND	**<50**				**1000**					ND			<100	NA	NA			ND				ND	ND	**220**	ND		ND		NA
S-3	Apr-86	**580**	NA	NA	ND	**<50**				**1200**					ND			<100	NA	NA			ND				ND	ND	**260**	ND		ND		NA
W-2	Apr-86	<5	NA	NA	<5	ND				ND					ND			ND	NA	NA			ND				ND	ND	ND	ND		ND		NA
W-4	Apr-86	**470**	NA	NA	ND	**10**				**94**					ND			11	NA	NA			ND				ND	ND	ND	ND		ND		NA
W-5	Apr-86	<5	NA	NA	<5	ND				ND					ND			ND	NA	NA			ND				ND	ND	ND	ND		ND		NA
W-7	Apr-86	33	NA	NA	ND	ND				**5**					92			ND	NA	NA			ND				ND	<5	<5	ND		ND		NA
W-7 DUP	Apr-86	26	NA	NA	ND	ND				<5					62			ND	NA	NA			ND				ND	<5	ND	ND		ND		NA
S-3	Aug-90	**5600**	ND	NA	**1600**	**58**				ND					ND			110	**3400**	NA			ND				ND	38	17	**190**		ND		NA
W-1	Aug-90	18	ND	NA	6	ND				ND					ND			ND	ND	NA			ND				ND	ND	ND	ND		ND		NA
W-4	Aug-90	190	ND	NA	**160**	6				ND					ND			15	ND	NA			ND				ND	ND	ND	ND		ND		NA
S-3	Sep-90	**3600**	ND	NA	**1200**	**29**				ND					ND			140	**5500**	NA			ND				ND	39	16	**580**		ND		NA
W-1	Sep-90	ND	ND	NA	ND	ND				ND					ND			ND	ND	NA			ND				ND	ND	ND	ND		ND		NA
W-4	Sep-90	81	ND	NA	**26**	ND				ND					ND			ND	ND	NA			ND				ND	ND	ND	ND		ND		NA
W-8	Oct-90	ND	ND	NA	ND	ND				ND					ND			ND	ND	NA			ND				ND	ND	ND	ND		ND		NA
W-1	1/29/1991	ND			ND	ND										ND	ND	ND	ND	NA							ND	ND	ND	ND		ND		NA
W-2	1/29/1991	ND			ND	ND										ND	ND	ND	ND	NA							ND	ND	ND	ND		ND		NA
W-3	1/29/1991	ND			ND	ND										ND	ND	ND	ND	NA							ND	ND	ND	ND		ND		NA
W-4	1/29/1991	110			**87**	ND										ND	ND	ND	ND	NA							ND	ND	ND	ND		ND		NA
W-5	1/29/1991	ND			ND	ND										ND	ND	ND	ND	NA							ND	ND	ND	ND		ND		NA
W-7	1/30/1991	7			10	**10**										ND	ND	ND	62	NA							ND	ND	ND	ND		ND		NA
W-8	1/30/1991	ND			ND	ND										ND	ND	ND	ND	NA							ND	ND	ND	ND		ND		NA
W-9	2/7/1991	ND			ND	ND										ND	ND	ND	ND	NA							ND	ND	ND	ND		ND		NA
W-10A	2/7/1991	ND			ND	ND										ND	ND	ND	14	NA							ND	ND	ND	ND		ND		NA
W-10B	2/7/1991	130			**29**	**12**										ND	ND	ND	7	NA							ND	ND	ND	**19**		ND		NA
W-11A	2/7/1991	ND			ND	ND										ND	ND	ND	38	NA							ND	ND	ND	ND		ND		NA
W-11B	2/7/1991	ND			ND	ND										ND	ND	ND	28	NA							ND	ND	ND	ND		ND		NA
W-12	2/7/1991	ND			5	**32**										ND	ND	ND	ND	NA							ND	ND	ND	ND		ND		NA
W-13	2/7/1991	ND			**33**	ND										ND	ND	36	ND	NA							ND	ND	ND	ND		ND		NA
S-3	1/30/1991	**1700**	ND	ND	**860**	**33**								ND	ND	ND	ND	210	**770**	NA			ND				ND	ND	5	**100**	ND	**26**	ND	NA
S-3	1/30/1991	**1500**	**<5**	<5	**690**	6.2			<5	<5	<5		<5	<50		<5	**166**	210	**620**	<5	<5		**<25**				<5	<5	<5	**66**	<5	**<50**	<5	
W-14A	9/23/1991	31	**<5**	<5	**45**	**38**			<5	<5	<5		<5	<100	<100	<5	<5	<10		<5	<5		<5				<5	<5	<5	**5.4**	<10	**<10**	<5	
W-14B	9/23/1991	<5	**<5**	<5	<5	<5			<5	<5	<5		<5	<100	<100	<5	<5	<10		<5	<5		<5				<5	<5	<5	<5	<10	**<10**	<5	

Historical Summary of Groundwater Chemisty

Sample Location	Date Sampled	1,1,1-Trichloroethane µg/L	1,1,2,2-Tetrachloroethane µg/L	1,1,2-Trichloroethane µg/L	1,1-Dichloroethane µg/L	1,1-Dichloroethene µg/L	1,2,4-Trimethylbenzene µg/L	1,2-Dibromoethane (EDB) µg/L	1,2-Dichlorobenzene µg/L	1,2-Dichloroethane µg/L	1,2-Dichloropropane µg/L	1,3,5-Trimethylbenzene µg/L	1,4-Dichlorobenzene µg/L	2-Butanone (MEK) µg/L	Acetone µg/L	Benzene µg/L	Carbon Tetrachloride µg/L	Chloroethane (Ethyl Chloride) µg/L	cis-1,2-Dichloroethene µg/L	Bromodichloromethane µg/L	Ethylbenzene µg/L	Isopropylbenzene (Cumene) µg/L	Methylene Chloride µg/L	Naphthalene µg/L	n-Butylbenzene µg/L	n-Propylbenzene µg/L	Tetrachloroethene µg/L	Toluene µg/L	trans-1,2-Dichloroethene µg/L	Trichloroethene µg/L	Trichlorofluoromethane µg/L	Vinyl Chloride µg/L	Xylene (Total) µg/L	Mineral Spirits µg/L
RCG Residential Groundwater Ingestion		200	0.66	5	24	7	15	0.05	600	5	5	87	75	4900	12,000	5	5	21000	70	80	700	390	5	1.4	780	530	5	1,000	100	5	1,100	2.00	10,000	NA
W-15A	9/23/1991	<5	**<5**	<5	<5	<5			<5	<5	<5		<5	<100	<100	<5	<5	<10		<5	<5		<5				<5	<5	<5	<5	<10	**<10**	<5	
W-15B	9/23/1991	<5	**<5**	<5	<5	<5			<5	<5	<5		<5	<100	<100	<5	<5	<10		<5	<5		**5.7**				<5	<5	<5	<5	<10	**<10**	<5	
W-1	3/4/1992	BEQL			ND	ND												ND		NA								ND	ND	ND		ND		NA
W-2	3/4/1992	ND			ND	ND												ND		NA								ND	ND	BEQL		ND		NA
W-3	3/4/1992	ND			ND	ND												ND		NA								ND	ND	ND		ND		NA
W-4	3/4/1992	81			**82**	**7**												7		NA								ND	ND	ND		ND		NA
W-5	3/4/1992	ND			BEQL	ND												ND		NA								ND	ND	ND		ND		NA
S-3	2/1/1992	**390**			**450**	**50**												110		NA								BEQL	BEQL	**73**		**43**		NA
W-7	3/4/1992	35			**24**	BEQL												BEQL		NA								ND	ND	ND		ND		NA
W-8	3/4/1992	ND			BEQL	ND												ND		NA								ND	ND	ND		ND		NA
W-9	3/4/1992	ND			ND	ND												ND		NA								ND	ND	ND		ND		NA
W-10A	3/4/1992	ND			ND	ND												ND		NA								ND	ND	ND		ND		NA
W-10B	3/4/1992	110			**25**	**19**												ND		NA								ND	ND	**16**		ND		NA
W-11A	3/4/1992	ND			ND	ND												ND		NA								ND	ND	ND		ND		NA
W-11B	3/4/1992	ND			ND	5												ND		NA								ND	ND	ND		ND		NA
W-12	3/4/1992	ND			ND	**14**												ND		NA								ND	ND	ND		**5**		NA
W-13	3/4/1992	ND			21	BEQL												150		NA								ND	ND	BEQL		ND		NA
W-14A	3/4/1992	ND			BEQL	ND												ND		NA								ND	ND	ND		ND		NA
W-14A DUP	3/4/1992	ND			BEQL	ND												ND		NA								ND	ND	ND		ND		NA
W-14A	3/4/1992	ND			BEQL	ND												ND		NA								ND	ND	ND		ND		NA
W-14A DUP	3/4/1992	ND			BEQL	ND												ND		NA								ND	ND	ND		ND		NA
W-14B	3/4/1992	BEQL			18	**33**												18		NA								ND	ND	BEQL		ND		NA
W-15A	3/4/1992	ND			BEQL	ND												ND		NA								ND	6	BEQL		ND		NA
W-15B	3/4/1992	ND			ND	ND												ND		NA								ND	ND	BEQL		ND		NA
W-16	3/4/1992	ND			BEQL	ND												ND		NA								ND	ND	ND		ND		NA
S-3	May-94	**1000**	ND	ND	**1200**	ND				ND					ND			120	BEQL	ND			ND				ND	ND	ND	ND		ND		NA
S3-A	May-94	**17000**	ND	ND	**13000**	**610**				ND					ND			1200	**<125**	ND			ND				ND	ND	**<125**	ND		ND		NA
S3-D	May-94	130	ND	ND	**48**	6.1				ND					ND			2.6	BEQL	ND			ND				ND	ND	ND	BEQL		ND		NA
W-I	Jun-94	ND	ND	ND	ND	ND				ND					ND			ND	ND	ND			ND				ND	ND	ND	ND		ND		NA
W-2	Jun-94	ND	ND	ND	ND	ND				3.3					ND			ND	ND	NA			ND				ND	ND	ND	ND		ND		NA
W-3	Jun-94	29	ND	**9**	2.2	ND				**43**					ND			ND	BEQL	ND			ND				ND	BEQL	ND	BEQL		ND		NA
W-4	Jun-94	140	ND	ND	**290**	**86**				2.3					ND			15	ND	ND			ND				ND	ND	ND	ND		BEQL		NA
W-5	Jun-94	ND	ND	ND	BEQL	ND				BEQL					ND			ND	ND	ND			ND				ND	ND	ND	BEQL		ND		NA
S-3	Jun-94	110	ND	ND	**45**	2.4				ND					ND			28	34	ND			ND				ND	BEQL	ND	**7.5**		BEQL		NA
S3-D	Jun-94	190	ND	**11**	21	5.3				**54**					3.9			BEQL	BEQL	ND			ND				ND	BEQL	ND	ND		ND		NA
W-7	Jun-94	5.1	ND	BEQL	9.7	BEQL				**6.3**					ND			ND	2.9	ND			ND				ND	ND	ND	ND		ND		NA
W-8	Jun-94	2.7	ND	4.6	2.5	ND				**20**					ND			ND	BEQL	ND			ND				ND	BEQL	ND	ND		ND		NA
W-9	Jun-94	<5	ND	ND	ND	ND				ND					<10			ND	ND	ND			ND				ND	ND	ND	ND		ND		NA
W-10A	Jun-94	130	ND	ND	BEQL	ND				ND					<10			ND	4.1	ND			ND				ND	ND	ND	ND		ND		NA
W-10B	Jun-94	69	ND	ND	18	**14**				ND					ND			3.4	2.8	ND			ND				ND	ND	ND	**14**		ND		NA
W-11A	Jun-94	ND	ND	ND	BEQL	ND				ND					ND			ND	BEQL	NA			ND				ND	ND	ND	ND		ND		NA
W-11B	Jun-94	ND	ND	ND	BEQL	3.6				ND					ND			ND	BEQL	ND			ND				ND	ND	ND	ND		ND		NA
W-12	Jun-94	18	ND	**52**	**29**	**46**				**310**					ND			16	16	ND			ND				ND	ND	ND	ND		ND		NA
W-13	Jun-94	28	ND	**7.4**	BEQL	BEQL				**98**					ND			ND	BEQL	ND			ND				ND	BEQL	ND	BEQL		ND		NA
W-14A	Jun-94	ND	ND	ND	BEQL	ND				ND					ND			ND	4.1	ND			ND				ND	ND	ND	ND		ND		NA
W-14A DUP	Jun-94	29	ND	ND	**52**	**40**				ND					ND			6.3	3.8	ND			ND				ND	ND	BEQL	BEQL		ND		NA
W-15A	Jun-94	ND	ND	ND	ND	ND				ND					ND			ND	ND	ND			ND				ND	ND	ND	ND		ND		NA
W-15B	Jun-94	ND	ND	ND	ND	ND				ND					ND			ND	ND	ND			ND				ND	ND	ND	ND		ND		NA
W-16	Jun-94	ND	ND	ND	BEQL	ND				ND					ND			ND	ND	ND			ND				ND	ND	ND	BEQL		ND		NA
S3-B	Jan-95	ND	ND	ND	**490**	ND				ND					ND			830	**2000**	ND			ND				ND	ND	**<125**	ND		ND		NA

Historical Summary of Groundwater Chemisty

Sample Location	Date Sampled	1,1,1-Trichloroethane µg/L	1,1,2,2-Tetrachloroethane µg/L	1,1,2-Trichloroethane µg/L	1,1-Dichloroethane µg/L	1,1-Dichloroethene µg/L	1,2,4-Trimethylbenzene µg/L	1,2-Dibromoethane (EDB) µg/L	1,2-Dichlorobenzene µg/L	1,2-Dichloroethane µg/L	1,2-Dichloropropane µg/L	1,3,5-Trimethylbenzene µg/L	1,4-Dichlorobenzene µg/L	2-Butanone (MEK) µg/L	Acetone µg/L	Benzene µg/L	Carbon Tetrachloride µg/L	Chloroethane (Ethyl Chloride) µg/L	cis-1,2-Dichloroethene µg/L	Bromodichloromethane µg/L	Ethylbenzene µg/L	Isopropylbenzene (Cumene) µg/L	Methylene Chloride µg/L	Naphthalene µg/L	n-Butylbenzene µg/L	n-Propylbenzene µg/L	Tetrachloroethene µg/L	Toluene µg/L	trans-1,2-Dichloroethene µg/L	Trichloroethene µg/L	Trichlorofluoromethane µg/L	Vinyl Chloride µg/L	Xylene (Total) µg/L	Mineral Spirits µg/L
RCG Residential Groundwater Ingestion		200	0.66	5	24	7	15	0.05	600	5	5	87	75	4900	12,000	5	5	21000	70	80	700	390	5	1.4	780	530	5	1,000	100	5	1,100	2.00	10,000	NA
W-1	Dec-96	<5	**<5**	<5	<5	<5				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-2	Dec-96	<5	**<5**	<5	<5	<5				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-3	Dec-96	<5	**<5**	<5	<5	<5				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-5	Dec-96	<5	**<5**	<5	<5	<5				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
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S3-D	Dec-96	**420**	**<50**	**<50**	**66**	**<50**				**<50**					<100			<50	<50	<50			**<50**				**<50**	<50	<50	**<50**		**<50**		NA
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W-8	Dec-96	<5	**<5**	<5	<5	<5				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-9	Dec-96	ND	**<5**	<5	<5	<5				<5					ND			<5	<5	<6			<5				<5	<5	<5	<5		**<5**		NA
W-10A	Dec-96	110	**<5**	<5	<5	<5				<5					ND			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-10B	Dec-96	170	**<5**	<5	23	**23**				<5					<10			6	<5	<5			<5				<5	<5	<5	**11**		**<5**		NA
W-11A	Dec-96	<5	**<5**	<5	<5	<5				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-11B	Dec-96	<5	**<5**	<5	<5	<5				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
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W-13	Dec-96	17	**<5**	<5	<5	<5				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-14A	Dec-96	<5	**<5**	<5	<5	<5				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-14A	Dec-96	<5	**<5**	<5	<5	**16**				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-15A	Dec-96	<5	**<5**	<5	<5	<5				<5					<10			<5	18	<5			<5				<5	<5	<5	<5		**<5**		NA
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EV-9	Dec-96	180	**<5**	<5	**170**	**7**				<5					<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
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EV-13	Dec-96	15	**<5**	<5	7	<5				<5					<10			<5	28	<5			<5				**21**	<5	<5	**13**		**<5**		NA
S-3	Mar-97	**8900**	**<5**	<5	**3700**	**49**				<5				14	<10			210	7	<5			<5				<5	<5	<5	**8**		**<5**		NA
S-3(DL)	Mar-97	**12000**	**<50**	**<50**	**4600**	**<50**				**<50**				<100	<100			290	<50	<50			**<50**				**<50**	<50	<50	**<50**		**<50**		NA
W-7	Mar-97	36	**<5**	<5	**29**	<5				<5					<10			<5	6	<5			<5				<5	<5	<5	<5		**<5**		NA
EV-8	Mar-97	<5	**<5**	<5	**34**	6				<5				<10	<10			11	<5	<5			<5				<5	'<5	<5	<5		**<5**		NA
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W-15A	Mar-97	<5	**<5**	<5	<5	<5				<5					<10			<5	30	<5			<5				<5	<5	<5	<5		**<5**		NA
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W-10B	Jun-97	170	**<5**	<5	**35**	**18**				<5				<10	<10			8	<5	<5			<5				<5	<5	<5	**17**		**<5**		NA
W-13	Jun-97	<5	**<5**	<5	10	<5				<5				<10	<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-15A	Jun-97	<5	**<5**	<5	<5	<5				<5				<10	<10			<5	34	<5			<5				<5	<5	<5	<5		**<5**		NA
EV-13	Jun-97	<5	**<5**	<5	7	<5				<5				<10	<10			<5	64	<5			<5				<5	<5	<5	<5		**<5**		NA
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W-10B	Sep-97	**210**	**<5**	<5	**37**	**19**				<5				<10	<10			6	<5	<5			<5				<5	<5	<5	**14**		**<5**		NA

Historical Summary of Groundwater Chemisty

Sample Location	Date Sampled	1,1,1-Trichloroethane µg/L	1,1,2,2-Tetrachloroethane µg/L	1,1,2-Trichloroethane µg/L	1,1-Dichloroethane µg/L	1,1-Dichloroethene µg/L	1,2,4-Trimethylbenzene µg/L	1,2-Dibromoethane (EDB) µg/L	1,2-Dichlorobenzene µg/L	1,2-Dichloroethane µg/L	1,2-Dichloropropane µg/L	1,3,5-Trimethylbenzene µg/L	1,4-Dichlorobenzene µg/L	2-Butanone (MEK) µg/L	Acetone µg/L	Benzene µg/L	Carbon Tetrachloride µg/L	Chloroethane (Ethyl Chloride) µg/L	cis-1,2-Dichloroethene µg/L	Bromodichloromethane µg/L	Ethylbenzene µg/L	Isopropylbenzene (Cumene) µg/L	Methylene Chloride µg/L	Naphthalene µg/L	n-Butylbenzene µg/L	n-Propylbenzene µg/L	Tetrachloroethene µg/L	Toluene µg/L	trans-1,2-Dichloroethene µg/L	Trichloroethene µg/L	Trichlorofluoromethane µg/L	Vinyl Chloride µg/L	Xylene (Total) µg/L	Mineral Spirits µg/L
RCG Residential Groundwater Ingestion		200	0.66	5	24	7	15	0.05	600	5	5	87	75	4900	12,000	5	5	21000	70	80	700	390	5	1.4	780	530	5	1,000	100	5	1,100	2.00	10,000	NA
W-13	Sep-97	<5	**<5**	<5	9	<5				<5				<10	<10			<5	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
W-15A	Sep-97	<5	**<5**	<5	<5	<5				<5				<10	<10			<5	24	<5			<5				<5	<5	<5	<5		**<5**		NA
EV-13	Sep-97	<5	**<5**	<5	<5	<5				<5				<10	<10			<5	51	<5			<5				<5	<5	<5	<5		**<5**		NA
EV-18	Sep-97	<5	**<5**	<5	9	<5				<5				<10	<10			12	<5	<5			<5				<5	<5	<5	<5		**<5**		NA
S-3	Jan-98	**4400**	**<5**	<5	**2200**	**36**				<5				19	30			<5	9	<5			**22**				<5	<5	<5	**110**		**<5**		NA
W-7	Jan-98	6	**<5**	<5	**95**	6				<5				<10	<5			<5	15	<5			<5				<5	<5	<5	<5		**<5**		NA
W-10B	Jan-98	130	**<5**	<5	**34**	**15**				<5				<10	27			<5	<5	<5			<5				<5	<5	<5	**11**		**<5**		NA
W-13	Jan-98	<5	**<5**	<5	12	<5				<5				<10	13			<5	<5	<5			**21**				<5	<5	<5	<5		**<5**		NA
W-15A	Jan-98	<5	**<5**	<5	<5	<5				<5				<10	24			<5	24	<5			**31**				<5	<5	<5	<5		**<5**		NA
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EV-13	Jan-98	<5	**<5**	<5	<5	<5				<5				<10	13			<5	30	<5			**65**				**6**	<5	<5	<5		**<5**		NA
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S-3	Jul-98	**6400**	**<5**	<5	**4400**	<5				<5				<5	1000			810	ND	<5			**75**				<5	<5	ND	<5		**<10**		NA
W-7	Jul-98	25	**<5**	<5	**36**	2				<5				<10	<10			<10	6	<5			<5				<5	<5	<5	<5		**<10**		NA
W-10B	Jul-98	130	**<5**	<5	16	6				<5				<10	<10			<10	2	<5			<5				<5	<5	<5	**9**		**<10**		NA
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EV-8	Jul-98	<5	**<5**	<5	**36**	2				<5					<10			16	<5	<5			2				<5	<5	<5	<5		**<10**		NA
EV-13	Jul-98	12	**<5**	<5	3	<5				<5				<10	<10			<10	16	<5			<5				**21**	<5	1	**13**		**<10**		NA
EV-18	Jul-98	<5	**<5**	<5	<5	<5								<10	<10			<10	<5	<5			<5				<5	<5	<5	<5		**<10**		NA
SB - 1	5/11/2011	<5	**<5**	<5	<5	<5	<5	**<5**	<5	<5	<5	<5	<5	<10		<5	<5	<5	<5	<5	<5	<5	<5	**<5**	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
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W - 1	5/19/2011	<5	**<5**	<5	<5	<5	<5	**<5**	<5	<5	<5	<5	<5	<10		<5	<5	<5	<5	<5	<5	<5	<5	**<5**	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
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W5	4/29/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-7	4/30/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-8	4/30/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W9	4/29/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-10A	4/29/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-10B	4/29/13	38.3	<0.66	<5	8.55	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	**6.00**	<5	<2	<10	NA
W-12	5/1/13	<5	<0.66	<5	<5	6.41	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA

Historical Summary of Groundwater Chemisty

Sample Location	Date Sampled	1,1,1-Trichloroethane µg/L	1,1,2,2-Tetrachloroethane µg/L	1,1,2-Trichloroethane µg/L	1,1-Dichloroethane µg/L	1,1-Dichloroethene µg/L	1,2,4-Trimethylbenzene µg/L	1,2-Dibromoethane (EDB) µg/L	1,2-Dichlorobenzene µg/L	1,2-Dichloroethane µg/L	1,2-Dichloropropane µg/L	1,3,5-Trimethylbenzene µg/L	1,4-Dichlorobenzene µg/L	2-Butanone (MEK) µg/L	Acetone µg/L	Benzene µg/L	Carbon Tetrachloride µg/L	Chloroethane (Ethyl Chloride) µg/L	cis-1,2-Dichloroethene µg/L	Bromodichloromethane µg/L	Ethylbenzene µg/L	Isopropylbenzene (Cumene) µg/L	Methylene Chloride µg/L	Naphthalene µg/L	n-Butylbenzene µg/L	n-Propylbenzene µg/L	Tetrachloroethene µg/L	Toluene µg/L	trans-1,2-Dichloroethene µg/L	Trichloroethene µg/L	Trichlorofluoromethane µg/L	Vinyl Chloride µg/L	Xylene (Total) µg/L	Mineral Spirits µg/L
RCG Residential Groundwater Ingestion		200	0.66	5	24	7	15	0.05	600	5	5	87	75	4900	12,000	5	5	21000	70	80	700	390	5	1.4	780	530	5	1,000	100	5	1,100	2.00	10,000	NA
W-13	5/1/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-14A	5/1/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-14B	5/1/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-15A	4/30/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	14.2	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-15B	4/30/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-16	4/30/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-101A	4/30/13	<5	<0.66	<5	<5	**8.41**	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	8.07	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-101B	4/30/13	<5	<0.66	<5	<5	6.25	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	5.54	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	**2.29**	<10	NA
W-100A	4/30/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-100B	4/30/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
UNK-1 (5-3A)	4/29/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
UNK-2 (5-3)	4/29/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-5	9/25/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	**6.82**	<5	<5	<5	<5	<2	<10	NA
W-9	9/25/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	**5.27**	<5	<5	<5	<5	<2	<10	NA
W-7	9/25/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-8	9/25/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
S-3A	9/25/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
S-3B	9/25/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-12	9/26/13	<5	<0.66	<5	<5	**9.14**	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	6.43	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-1	9/26/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-3	9/26/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-100A	9/26/13	<5	<0.66	<5	<5	**8.74**	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	7.86	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-100B	9/26/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-101A	9/26/13	<5	<0.66	<5	<5	**8.92**	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	5.79	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-101B	9/26/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	6.01	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	**2.83**	<10	NA
W-16	9/26/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-15A	9/26/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	11.8	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-14A	9/26/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-14B	9/27/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-13	9/27/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
W-10B	9/27/13	67.1	<0.66	<5	13.7	**10.1**	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	5.37	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	**7.9**	<5	<2	<10	NA
W-10A	9/27/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA
TRIP BLANK	9/25/13	<5	<0.66	<5	<5	<5	<5	**<1**	<5	<5	<5	<5	<5	<10	<100	<5	<5	<5	<5	<5	<5	<5	<5	<1.4	<5	<5	<5	<5	<5	<5	<5	<2	<10	NA

Notes:
µg/L - micrograms per Liter **mg/L** - milligrams per Liter
ppb - parts per billion, **ppm** - parts per million
VOCs - volatile organic compounds
ND - Not Detected, **NA -** Not Analyzed, **BPQL -** Below Practical Quantification Limit
Concentrations exceeding the Residential Ingestion Screening Level are shown in **bold**
Table compiled from summary tables of previous reports. Previous analyses used analytical methods other than 8260 and, therefore, may not have analyzed for all compounds shown in table. Blank cells represent either no analysis available or no value reported in summary

APPENDIX D

Laboratory Certificates of Analysis and Chain of Custody

ENVision Laboratories, Inc.
1439 Sadlier Circle West Drive
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Tel: 317.351.8632
Fax: 317.351.8639
www.envisionlaboratories.com

Mr. Nivas Vijay
Heartland Environmental
3410 Mishawaka Ave.
South Bend, IN 46615

October 10, 2013

ENVision Project Number: 2013-2774
Client Project Name: UEA Sample Street

Dear Mr. Vijay,

Please find the attached analytical report for the samples received October 1, 2013. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. ENVision Laboratories looks forward to working with you on your next project.

Yours Sincerely,

David Norris

Client Services Manager
ENVision Laboratories, Inc.

PA DEP Lab Code: 68-04846 NELAP Cert:003

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-5
Envision Sample Number: 13-21379
Sample Matrix: water

Sample Collection Date/Time: 9/25/13 10:25
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	**6.82**	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	123%		
1,2-Dichloroethane-d4 (surrogate)	115%		
Toluene-d8 (surrogate)	116%		
4-bromofluorobenzene (surrogate)	120%		
Analysis Date/Time:	10-8-13/21:01		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-9
Envision Sample Number: 13-21380
Sample Matrix: water
Sample Collection Date/Time: 9/25/13 12:05
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	**5.27**	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	115%		
1,2-Dichloroethane-d4 (surrogate)	116%		
Toluene-d8 (surrogate)	117%		
4-bromofluorobenzene (surrogate)	116%		
Analysis Date/Time:	10-8-13/21:23		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-7
Envision Sample Number: 13-21381
Sample Matrix: water

Sample Collection Date/Time: 9/25/13 13:40
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	107%		
1,2-Dichloroethane-d4 (surrogate)	115%		
Toluene-d8 (surrogate)	114%		
4-bromofluorobenzene (surrogate)	116%		
Analysis Date/Time:	10-8-13/21:45		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-8
Envision Sample Number: 13-21382
Sample Matrix: water

Sample Collection Date/Time: 9/25/13 14:20
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	112%		
1,2-Dichloroethane-d4 (surrogate)	111%		
Toluene-d8 (surrogate)	118%		
4-bromofluorobenzene (surrogate)	114%		
Analysis Date/Time:	10-8-13/22:08		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: S-3A
Envision Sample Number: 13-21383
Sample Matrix: water

Sample Collection Date/Time: 9/25/13 15:35
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	112%		
1,2-Dichloroethane-d4 (surrogate)	115%		
Toluene-d8 (surrogate)	119%		
4-bromofluorobenzene (surrogate)	114%		
Analysis Date/Time:	10-8-13/22:30		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: S-3B
Envision Sample Number: 13-21384
Sample Matrix: water
Sample Collection Date/Time: 9/25/13 16:35
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	112%		
1,2-Dichloroethane-d4 (surrogate)	115%		
Toluene-d8 (surrogate)	117%		
4-bromofluorobenzene (surrogate)	120%		
Analysis Date/Time:	10-8-13/22:52		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-12
Envision Sample Number: 13-21385
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 9:50
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	**9.14**	5	
cis-1,2-Dichloroethene	**6.43**	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	114%		
1,2-Dichloroethane-d4 (surrogate)	121%		
Toluene-d8 (surrogate)	119%		
4-bromofluorobenzene (surrogate)	116%		
Analysis Date/Time:	10-8-13/23:14		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-1
Envision Sample Number: 13-21386
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 11:05
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	114%		
1,2-Dichloroethane-d4 (surrogate)	117%		
Toluene-d8 (surrogate)	117%		
4-bromofluorobenzene (surrogate)	115%		
Analysis Date/Time:	10-8-13/23:37		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-3
Envision Sample Number: 13-21387
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 12:10
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	110%		
1,2-Dichloroethane-d4 (surrogate)	113%		
Toluene-d8 (surrogate)	118%		
4-bromofluorobenzene (surrogate)	115%		
Analysis Date/Time:	10-8-13/23:59		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-100A
Envision Sample Number: 13-21388
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 13:10
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	**8.74**	5	
cis-1,2-Dichloroethene	**7.86**	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	111%		
1,2-Dichloroethane-d4 (surrogate)	113%		
Toluene-d8 (surrogate)	117%		
4-bromofluorobenzene (surrogate)	116%		
Analysis Date/Time:	10-9-13/00:22		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-100B
Envision Sample Number: 13-21389
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 14:00
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	114%		
1,2-Dichloroethane-d4 (surrogate)	114%		
Toluene-d8 (surrogate)	117%		
4-bromofluorobenzene (surrogate)	116%		
Analysis Date/Time:	10-9-13/00:44		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-101A
Envision Sample Number: 13-21390
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 15:00
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	**8.92**	5	
cis-1,2-Dichloroethene	**5.79**	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	114%		
1,2-Dichloroethane-d4 (surrogate)	118%		
Toluene-d8 (surrogate)	116%		
4-bromofluorobenzene (surrogate)	117%		
Analysis Date/Time:	10-9-13/01:06		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-101
Envision Sample Number: 13-21391
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 15:50
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	**6.01**	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	**2.83**	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	114%		
1,2-Dichloroethane-d4 (surrogate)	118%		
Toluene-d8 (surrogate)	116%		
4-bromofluorobenzene (surrogate)	118%		
Analysis Date/Time:	10-9-13/01:28		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-16
Envision Sample Number: 13-21392
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 17:15
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	115%		
1,2-Dichloroethane-d4 (surrogate)	116%		
Toluene-d8 (surrogate)	118%		
4-bromofluorobenzene (surrogate)	118%		
Analysis Date/Time:	10-9-13/01:51		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-15A
Envision Sample Number: 13-21393
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 18:05
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	**11.8**	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	112%		
1,2-Dichloroethane-d4 (surrogate)	113%		
Toluene-d8 (surrogate)	118%		
4-bromofluorobenzene (surrogate)	113%		
Analysis Date/Time:	10-9-13/02:13		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-14A
Envision Sample Number: 13-21394
Sample Matrix: water

Sample Collection Date/Time: 9/26/13 19:05
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	112%		
1,2-Dichloroethane-d4 (surrogate)	113%		
Toluene-d8 (surrogate)	117%		
4-bromofluorobenzene (surrogate)	114%		
Analysis Date/Time:	10-9-13/02:35		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-14B
Envision Sample Number: 13-21395
Sample Matrix: water

Sample Collection Date/Time: 9/27/13 11:25
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	112%		
1,2-Dichloroethane-d4 (surrogate)	113%		
Toluene-d8 (surrogate)	118%		
4-bromofluorobenzene (surrogate)	116%		
Analysis Date/Time:	10-9-13/02:58		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(1)

Client Sample ID: W-13
Envision Sample Number: 13-21396
Sample Matrix: water

Sample Collection Date/Time: 9/27/13 12:25
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	115%		
1,2-Dichloroethane-d4 (surrogate)	119%		
Toluene-d8 (surrogate)	85%		
4-bromofluorobenzene (surrogate)	116%		
Analysis Date/Time:	10-9-13/03:20		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(2)

Client Sample ID: W-10B
Envision Sample Number: 13-21397
Sample Matrix: water

Sample Collection Date/Time: 9/27/13 13:55
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

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Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	**13.7**	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	**10.1**	5	
cis-1,2-Dichloroethene	**5.37**	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	**67.1**	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	**7.90**	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	114%		
1,2-Dichloroethane-d4 (surrogate)	119%		
Toluene-d8 (surrogate)	121%		
4-bromofluorobenzene (surrogate)	92%		
Analysis Date/Time:	10-9-13/05:34		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(2)

Client Sample ID: W-10A
Envision Sample Number: 13-21398
Sample Matrix: water

Sample Collection Date/Time: 9/27/13 15:05
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	110%		
1,2-Dichloroethane-d4 (surrogate)	114%		
Toluene-d8 (surrogate)	115%		
4-bromofluorobenzene (surrogate)	118%		
Analysis Date/Time:	10-9-13/05:56		
Analyst Initials	tjg		

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Analytical Report

Client Name: HEARTLAND ENVIRONMENTAL

Project ID: UEA SAMPLE STREET

Client Project Manager: NIVAS VIJAY

ENVision Project Number: 2013-2774

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 100813VW(2)

Client Sample ID: TRIP BLANK
Envision Sample Number: 13-21399
Sample Matrix: water

Sample Collection Date/Time: 9/25/13
Sample Received Date/Time: 10/1/13 14:30

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

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Analytical Report

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	111%		
1,2-Dichloroethane-d4 (surrogate)	113%		
Toluene-d8 (surrogate)	116%		
4-bromofluorobenzene (surrogate)	117%		
Analysis Date/Time:	10-9-13/06:18		
Analyst Initials	tjg		

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EPA 8260 Quality Control Data

ENVision Batch Number: 100813VW(1)

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	

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8260 QC Continued…

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Hexachloro-1,3-butadiene	< 2.6	2.6	
2-Hexanone	< 10	10	
n-Hexane	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (total)	< 10	10	
Dibromofluoromethane (surrogate)	89%		
1,2-Dichloroethane-d4 (surrogate)	89%		
Toluene-d8 (surrogate)	97%		
4-bromofluorobenzene (surrogate)	95%		
Analysis Date/Time:	10-8-13/18:24		
Analyst Initials	tjg		

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8260 QC Continued…

Laboratory Control Standard (LCS):	LCS Results (ug/L)	LCS Conc(ug/L)	% Rec	Flag
Vinyl Chloride	53.4	50	107%	
1,1-Dichloroethene	55.0	50	110%	
trans-1,2-Dichloroethene	54.0	50	108%	
Methyl-tert-butyl-ether	51.5	50	103%	
1,1-Dichloroethane	51.8	50	104%	
cis-1,2-Dichloroethene	51.3	50	103%	
Chloroform	50.6	50	101%	
1,1,1-Trichloroethane	52.2	50	104%	
Benzene	52.5	50	105%	
Trichloroethene	53.7	50	107%	
Toluene	53.9	50	108%	
1,1,1,2-Tetracholorethane	54.6	50	109%	
Chlorobenzene	54.6	50	109%	
Ethylbenzene	55.2	50	110%	
o-Xylene	55.1	50	110%	
n-Propylbenzene	57.4	50	115%	
Dibromofluoromethane (surrogate)	84%			
1,2-Dichloroethane-d4 (surrogate)	96%			
Toluene-d8 (surrogate)	100%			
4-bromofluorobenzene (surrogate)	98%			
Analysis Date/Time:	10-8-13/17:17			
Analyst Initials	tjg			

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EPA 8260 Quality Control Data

ENVision Batch Number: 100813VW(2)

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
cis-1,3-Dichloropropene	< 4.1	4.1	
trans-1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	

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8260 QC Continued…

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Hexachloro-1,3-butadiene	< 2.6	2.6	
2-Hexanone	< 10	10	
n-Hexane	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (total)	< 10	10	
Dibromofluoromethane (surrogate)	104%		
1,2-Dichloroethane-d4 (surrogate)	91%		
Toluene-d8 (surrogate)	98%		
4-bromofluorobenzene (surrogate)	97%		
Analysis Date/Time:	10-9-13/05:11		
Analyst Initials	tjg		

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8260 QC Continued…

Laboratory Control Standard (LCS):	LCS Results (ug/L)	LCS Conc(ug/L)	% Rec	Flag
Vinyl Chloride	48.1	50	96%	
1,1-Dichloroethene	54.7	50	109%	
trans-1,2-Dichloroethene	53.7	50	107%	
Methyl-tert-butyl-ether	57.7	50	115%	
1,1-Dichloroethane	51.9	50	104%	
cis-1,2-Dichloroethene	55.2	50	110%	
Chloroform	53.8	50	108%	
1,1,1-Trichloroethane	54.4	50	109%	
Benzene	53.8	50	108%	
Trichloroethene	55.5	50	111%	
Toluene	55.9	50	112%	
1,1,1,2-Tetracholorethane	61.6	50	123%	
Chlorobenzene	57.9	50	116%	
Ethylbenzene	57.7	50	115%	
o-Xylene	57.0	50	114%	
n-Propylbenzene	58.1	50	116%	
Dibromofluoromethane (surrogate)	99%			
1,2-Dichloroethane-d4 (surrogate)	98%			
Toluene-d8 (surrogate)	101%			
4-bromofluorobenzene (surrogate)	101%			
Analysis Date/Time:	10-9-13/04:04			
Analyst Initials	tjg			

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Flag Number	Comments
1	Reported value is below the reporting limit, but above the MDL.

2013-2774

ENVision Proj#: _____ Page 1 of 2

CHAIN OF CUSTODY RECORD

ENVision Laboratories, Inc. | 1439 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-8632 | Fax: (317) 351-8639

Client: Heartland Environmental	Invoice Address: Same
Report Address: 3410 Mishawaka Ave South Bend, IN 46615	Project Name: UEA Sample Street
Report To: Nivas Vijay	Lab Contact:
Phone: 574-360-0961	Sampled by: David Nye
Fax: 574-289-7480	P.O. Number:
Desired TAT: (Please Circle One) 1-2 days 3-6 days **Std (7 bus. days)**	QA/QC Required: (circle if applicable) Level III Level IV

REQUESTED PARAMETERS

VOC 8260

Sample Integrity:

Cooler Temp: 5 °C (Circle)
Samples on Ice? Yes No
Samples Intact? Yes No
Custody Seal: Yes No
ENVision provided bottles: Yes No
VOC vials free of head-space: Yes No N/A
pH checked? Yes No N/A
Method 5035 collection used? Yes No
5035 samples received within 48 hr of Collection? Yes No

Please indicate number of containers per preservative below

Sample ID	Coll. Date	Coll. Time	Comp (C) Grab (G)	Matrix	VOC 8260	HCl	HNO_3	H_2SO_4	NaOH	Other	None	ENVision Sample ID
W-5	9-25-13	10:25	G	W	X	2						13-21379
W-9	"	12:05	"	"	X	2						13-21380
W-7		13:40			X	2						13-21381
W-8		14:20			X	2						13-21382
S-3A		15:35			X	2						13-21383
S-3B		16:35			X	2						13-21384
W-12	9-26-13	09:50			X	2						13-21385
W-1		11:05			X	2						13-21386
W-3		12:10			X	2						13-21387
W-100 A		13:10			X	2						13-21388
W-100 B		14:00			X	2						13-21389

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
David Nye	9-30-13	1730	FedEx	9-30-13	1730
			Hawson	10-1-13	14:30

ENVision Proj#: 2013-2774 Page 2 of 2

CHAIN OF CUSTODY RECORD

ENVision Laboratories, Inc. | 1439 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-8632 | Fax: (317) 351-8639

Client: Heartland Environmental	Invoice Address: Same
Report Address: 3410 Mishawaka Ave South Bend, IN 46615	Project Name: UEA Sample Street
Report To: Nivas Vijay	Lab Contact:
Phone: 574-360-0961	Sampled by: David Nye
Fax: 574-289-7480	P.O. Number:
Desired TAT: (Please Circle One) 1-2 days 3-6 days Std (7 bus. days)	QA/QC Required: (circle if applicable) Level III Level IV

REQUESTED PARAMETERS

VOC 8260

Sample Integrity:

Cooler Temp: 5 °C (Circle)
Samples on Ice? Yes No
Samples Intact? Yes No
Custody Seal: Yes No
ENVision provided bottles: Yes No
VOC vials free of head-space? Yes No N/A
pH checked? Yes No N/A
Method 5035 collection used? Yes No
5035 samples received within 48 hr of Collection? Yes No

Please indicate number of containers per preservative below

Sample ID	Coll. Date	Coll. Time	Comp (C) Grab (G)	Matrix	VOC 8260	HCl	HNO_3	H_2SO_4	NaOH	Other	None	ENVision Sample ID
W-101 A	9-26-13	15:00	G	W	X	2						13-21390
W-101		15:50			X	2						13-21391
W-16		17:15			X	2						13-21392
W-15 A		18:05			X	2						13-21393
W-14 A		19:05			X	2						13-21394
W-14 B	9-27-13	11:25			X	2						13-21395
W-13		12:25			X	2						13-21396
W-10 B		13:55			X	2						13-21397
W-10 A		15:05			X	2						13-21398
Trip Blank	9-25-13	—			X	2						13-21399

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
David Nye	9-30-13	1730	Fed Ex	9-30-13	1230
			Whawson	10-1-13	14.30

APPENDIX E

Sampling Data Sheets

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: MW-5 | Boring or Well ID: MW-5 | Sample Date & Time: 9-25-13 10:25
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 5-10 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 61°F Humidity: High / (Moderate) / Low / _____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 5 Inches | Screened / Open Interval: _____ Ft | Screen Slot Size: _____
Elevation Top of Casing (TOC): _____ Ft | Grade Elevation: _____ Ft | Survey Info: _____
SWL Depth from TOC (prior to purge): 10.98 Ft | SWL Elevation (prior to purge): _____ Ft
Well / Sampler Depth from TOC: 36.32 Ft | TOC to Grade: 3.6 Ft | Well Depth from Grade: _____ Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft | Volume of Water Column: _____ Gallons
Volume of Water Purged: 2.2 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump / (other: peristaltic) | Pump Intake Depth: 35 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: _____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No / (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: ((Clear) / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0955			20.44	NA	0.472	NA	10.90	NA	5.70	NA	20.8	NA	154	NA	200	10.97
1001			20.12		0.456		5.96		4.97		5.68		184		200	10.97
1004			20.11		0.454		5.11	14.3	4.95		2.99		186	2	200	10.97
1007			20.06	0.2	0.453	0.2	4.49	12.1	4.93	0.02	2.19	26.8	187	1	200	10.97
1010			20.03	0.2	0.453	0	3.96	11.8	4.89	0.04	0.83	62.1	189	2	200	10.97
1013			19.98	0.2	0.452	0.2	3.59	9.3	4.88	0.01	0.84	1.2	189	0	200	10.97
1016			19.95	0.2	0.452	0	3.37	6.1	4.89	0.01	0.83	1.2	189	0	200	10.97
1019			19.94	0.1	0.451	0.2	3.31	1.8	4.89	0	0.82	1.2	187	2	200	10.97

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-9 | Boring or Well ID: W-9 | Sample Date & Time: 9-25-13 12:05
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 5-10 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 65°F Humidity: High / (Moderate) / Low / _____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 2 Inches | Screened / Open Interval: _____ Ft | Screen Slot Size: _____
Elevation Top of Casing (TOC): _____ Ft | Grade Elevation: _____ Ft | Survey Info: _____
SWL Depth from TOC (prior to purge): 12.25 Ft | SWL Elevation (prior to purge): _____ Ft
Well / Sampler Depth from TOC: 53.28 Ft | TOC to Grade: 2.24 Ft | Well Depth from Grade: _____ Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft | Volume of Water Column: _____ Gallons
Volume of Water Purged: 1.6 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump / (other: peristaltic) | Pump Intake Depth: 50 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: _____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear) / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1140			16.34	NA	1.04	NA	15.90	NA	5.16	NA	28.6	NA	19	NA	200	12.25
1146			13.03		1.25		2.98		4.87		19.6		-7		200	12.25
1149			12.91		1.25	0	2.13	28.5	4.87	0	9.0		-12	5	200	12.25
1152			12.88	0.2	1.25	0	1.90	10.8	4.87		0.0		-15	3	200	12.25
1155			12.85	0.2	1.25	0	1.73	8.9	4.88	0.01	0.0	0	-14	1	200	12.25
1158			12.89	0.3	1.25	0	1.59	8.1	4.88	0	0.0	0	-9	5	200	12.25
1201			12.89	0	1.25	0	1.48	6.9	4.84	0.04	0.0	0	-1	8	200	12.25

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-7 | Boring or Well ID: W-7 | Sample Date & Time: 9-25-13 13:40
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 0-5 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 70 °F Humidity: High / Moderate / (Low) ____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: ____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: ____
Screen / Casing Inside Diameter: 4 Inches | Screened / Open Interval: ____ Ft | Screen Slot Size: ____
Elevation Top of Casing (TOC): ____ Ft | Grade Elevation: ____ Ft | Survey Info: ____
SWL Depth from TOC (prior to purge): 11.24 Ft | SWL Elevation (prior to purge): ____ Ft
Well / Sampler Depth from TOC: 31.9 Ft | TOC to Grade: 0.3 Ft | Well Depth from Grade: ____ Ft
Volume/Foot Casing (d^2x0.04079): ____ Gal/Ft | Volume of Water Column: ____ Gallons
Volume of Water Purged: 1.2 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) | Pump Intake Depth: 30 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) | Other: ____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: ____ Size: ____ Pore: ____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan / .)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1320			20.65	NA	1.06	NA	5.53	NA	5.14	NA	1.55	NA	53	NA	180	11.24
1326			17.61		1.29		2.03		4.78		1.42		17		182	11.24
1329			17.49		1.30		1.73	14.8	4.78	0	0.94		9	8	180	11.24
1332			17.43	0.3	1.31	0.8	1.57	9.2	4.82	0.04	0.87	7.4	2	7	180	11.24
1335			17.42	0.1	1.31	0	1.57	0	4.86	0.04	0.95	9.2	-6	8	182	11.24
1338			17.44	0.1	1.32	0.8	1.54	1.9	4.88	0.02	1.02	7.4	-11	5	180	11.25

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-8 | Boring or Well ID: W-8 | Sample Date & Time: 9-25-13 14:20
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 5-10 mph Precipitation: | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 71 °F Humidity: High / Moderate / (Low) / ____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: ____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: ____
Screen / Casing Inside Diameter: 4 Inches | Screened / Open Interval: ____ Ft | Screen Slot Size: ____
Elevation Top of Casing (TOC): ____ Ft | Grade Elevation: ____ Ft | Survey Info: ____
SWL Depth from TOC (prior to purge): 11.47 Ft | SWL Elevation (prior to purge): ____ Ft
Well / Sampler Depth from TOC: 59.92 Ft | TOC to Grade: 0.8 Ft | Well Depth from Grade: ____ Ft
Volume/Foot Casing (d^2x0.04079): ____ Gal/Ft | Volume of Water Column: ____ Gallons
Volume of Water Purged: 1.0 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump / (other: peristaltic) | Pump Intake Depth: 55 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: ____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No / (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: ____ Size: ____ Pore: ____

Water Sample Appearance: (Clear) / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1400			21.51	NA	0.924	NA	9.44	NA	4.74	NA	4.47	NA	92	NA	200	11.47
1406			17.70		1.09		6.85		5.15		0.00		107		196	11.47
1409			17.66	0.2	1.08	0.9	6.65	2.9	5.12	0.03	0.00	0	113	6	192	11.47
1412			17.58	0.5	1.08	0	6.63	0.3	5.10	0.02	0.00	0	118	5	198	11.47
1415			17.52	0.3	1.08	0	6.80	2.6	5.08	0.02	0.00	0	123	5	200	11.47

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: S-3A | Boring or Well ID: S-3A | Sample Date & Time: 9-25-13 15:35

Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA

Sampling Personnel: David Nye | Project No.: 5093-12-01:05

Weather: Sky: Clear Ground: dry Wind: 5-10 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN

Temp.: 72°F Humidity: High / Moderate / (Low) ____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other:

Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other:

Screen / Casing Inside Diameter:	4	Inches	Screened / Open Interval:		Ft	Screen Slot Size:		
Elevation Top of Casing (TOC):		Ft	Grade Elevation:		Ft	Survey Info:		
SWL Depth from TOC (prior to purge):	7.83	Ft	SWL Elevation (prior to purge):		Ft			
Well / Sampler Depth from TOC:	18.60	Ft	TOC to Grade:	(-0.1)	Ft	Well Depth from Grade:		Ft
Volume/Foot Casing (d^2x0.04079):		Gal/Ft	Volume of Water Column:		Gallons			
Volume of Water Purged:	1.3	Gallons	Well Volume Purged: (circle)	1 2 3 4 5 6 7 8 9 10	well volumes			

Pump Type: (circle): Bladder Pump / (other: peristaltic) Pump Intake Depth: 17 Ft below TOC Field Meter Type(s): Horiba U-50

Pump Make /Model: Geopump 2 Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other:

Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)

Filtration Method: (Gravity / Vacuum / Pressure) None

Filter: (Cartridge / Paper) Type: ____ Size: ____ Pore: ____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)

a slew tan solids (Color: Gray / Brown / Tan /)

Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1510			21.20	NA	0.323	NA	8.09	NA	5.17	NA	44.3	NA	10	NA	200	7.86
1516			20.15		0.352		2.07		5.12		11.5		-9		200	7.86
1519			20.07	0.4	0.364	3.4	1.83	11.6	5.14	0.02	9.26	54.3	-18	9	200	7.86
1522			20.05	0.1	0.374	2.7	1.70	7.1	5.11	0.03	5.22	0.8	-22	4	200	7.86
1525			20.05	0	0.381	1.9	1.65	2.9	5.11	0	5.01	4.0	-25	3	200	7.86
1528			20.02	0.2	0.386	1.3	1.57	4.8	5.10	0.01	4.62	7.8	-28	3	200	7.87

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: S-3 | Boring or Well ID: S-3 | Sample Date & Time: 9-25-13 16:35

Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA

Sampling Personnel: David Nye | Project No.: 5093-12-01:05

Weather: Sky: clear Ground: dry Wind: 0-5 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN

Temp.: 72°F Humidity: High / Moderate / (Low) _____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____

Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____

Screen / Casing Inside Diameter: 4 Inches | Screened / Open Interval: _____ Ft | Screen Slot Size: _____

Elevation Top of Casing (TOC): _____ Ft | Grade Elevation: _____ Ft | Survey Info: _____

SWL Depth from TOC (prior to purge): 7.81 Ft | SWL Elevation (prior to purge): _____ Ft

Well / Sampler Depth from TOC: 50.10 Ft | TOC to Grade: (-0.25) Ft | Well Depth from Grade: _____ Ft

Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft | Volume of Water Column: _____ Gallons

Volume of Water Purged: 1.4 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) | Pump Intake Depth: 45 Ft below TOC | Field Meter Type(s): Horiba U-50

Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: _____

Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)

Filtration Method: (Gravity / Vacuum / Pressure) None

Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear) / Slightly Turbid / Moderately Turbid / Very Turbid) a few rust colored solids (Color: Gray / Brown / Tan /)

Were Samples Iced after Collection? YES / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1610			20.36	NA	1.43	NA	6.51	NA	4.98	NA	166	NA	-7	NA	200	7.81
1616			18.73		1.49		2.01		5.07		90.1		-46		200	7.81
1619			18.76	0.2	1.51	1.3	1.79	10.9	5.11	0.04	62.8	30.3	-49	3	200	7.81
1622			18.70	0.3	1.54	2.0	1.69	5.6	5.09	0.02	57.1	9.1	-50	1	194	7.81
1625			18.66	0.2	1.55	0.6	1.62	4.1	5.08	0.01	52.2	8.6	-50	0	196	7.81
1628			18.61	0.3	1.55	0	1.62	0	5.04	0.04	47.3	9.4	-50	0	190	7.81

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-12 | Boring or Well ID: W-12 | Sample Date & Time: 9-26-13 0950
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 5-10 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 58°F Humidity: High / Moderate / Low / _____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) Permanent Monitoring Well / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 2 Inches | Screened / Open Interval: _____ Ft | Screen Slot Size: _____
Elevation Top of Casing (TOC): _____ Ft | Grade Elevation: _____ Ft | Survey Info: _____
SWL Depth from TOC (prior to purge): 10.57 Ft | SWL Elevation (prior to purge): _____ Ft
Well / Sampler Depth from TOC: 29.26 Ft | TOC to Grade: (-0.3) Ft | Well Depth from Grade: _____ Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft | Volume of Water Column: _____ Gallons
Volume of Water Purged: 1.5 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump / other: peristaltic | Pump Intake Depth: 28 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / LDPE / Other: _____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: 0.125 inch ID x 0.25 inch OD

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? YES / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0925			22.66	NA	2.06	NA	8.67	NA	5.04	NA	71.9	NA	136	NA	200	10.57
0931			17.95		2.35		2.70		5.29		29.1		-26		200	10.57
0934			17.94	0.1	2.34	0.4	2.17	19.6	5.29	0	5.07	82.6	-31	5	200	10.57
0937			17.92	0.2	2.32		1.98	8.8	5.26	0.03	2.32	54.2	-32	1	200	10.57
0940			17.95	0.1	2.33	0.4	1.85	6.6	5.26	0	2.18	6.0	-33	1	200	10.57
0943			17.98	0.2	2.32	0.4	1.76	4.9	5.25	0.01	1.97	9.6	-32	1	200	10.57
0946			17.98	0	2.31	0.4	1.65	6.3	6.23	0.02	1.79	9.1	-31	1	200	10.57
0949																

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-1 | Boring or Well ID: W-1 | Sample Date & Time: 9-26-13 11:05
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: Clear Ground: dry Wind: 5-10 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 64°F Humidity: (High) / Moderate / Low / ____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: ____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: ____
Screen / Casing Inside Diameter: 5 Inches | Screened / Open Interval: ____ Ft | Screen Slot Size: ____
Elevation Top of Casing (TOC): ____ Ft | Grade Elevation: ____ Ft | Survey Info: ____
SWL Depth from TOC (prior to purge): 10.82 Ft | SWL Elevation (prior to purge): ____ Ft
Well / Sampler Depth from TOC: 62.9 Ft | TOC to Grade: (-0.3) Ft | Well Depth from Grade: ____ Ft
Volume/Foot Casing (d^2x0.04079): ____ Gal/Ft | Volume of Water Column: ____ Gallons
Volume of Water Purged: 1.3 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) | Pump Intake Depth: 55 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: ____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: ____ Size: ____ Pore: ____

Water Sample Appearance: (Clear) / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:40			21.65	NA	0.855	NA	10.75	NA	5.33	NA	12.3	NA	95	NA	200	10.82
10:46			18.61		0.885		6.49		5.26		3.02		110		200	10.82
10:49			18.86	1.3	0.880	0.6	5.97	8.0	5.25	0.01	0.00		115	5	200	10.82
10:52			18.89	0.2	0.878	0.2	5.94	0.5	5.25	0	0.00	0	119	4	200	10.82
10:55			18.93	0.2	0.876	0.2	5.91	0.5	5.25	0	0.00	0	122	3	200	10.82
10:58			18.94	0.1	0.874	0.2	5.96	0.8	5.26	0.01	0.00	0	125	3	200	10.82

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-3 | Boring or Well ID: W-3 | Sample Date & Time: 9-26-13 12:10

Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA

Sampling Personnel: David Nye | Project No.: 5093-12-01:05

Weather: Sky: clear Ground: dry Wind: 5-10mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN

Temp.: 69°F Humidity: High (Moderate) / Low / _____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____

Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____

Screen / Casing Inside Diameter: 5 Inches | Screened / Open Interval: _____ Ft | Screen Slot Size: _____

Elevation Top of Casing (TOC): _____ Ft | Grade Elevation: _____ Ft | Survey Info: _____

SWL Depth from TOC (prior to purge): 9.61 Ft | SWL Elevation (prior to purge): _____ Ft

Well / Sampler Depth from TOC: 58.03 Ft | TOC to Grade: (-1.0) Ft | Well Depth from Grade: _____ Ft

Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft | Volume of Water Column: _____ Gallons

Volume of Water Purged: 0.7 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) | Pump Intake Depth: 55 Ft below TOC | Field Meter Type(s): Horiba U-50

Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) | Other: _____

Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)

Filtration Method: (Gravity / Vacuum / Pressure) None

Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)

(Color: Gray / Brown / Tan /)

Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1145			24.73	NA	0.577	NA	10.54	NA	5.02	NA	30.7	NA	151	NA	188	9.61
1151			18.84		1.57		2.78		5.51		2.88		-25		162	9.61
1154			19.27		1.60		2.23		5.52		2.44		-30		160	9.61
1157			19.25	0.1	1.61	0.6	2.01	9.9	5.52	0	2.68	9.8	-33	3	148	9.61
1200			19.19	0.3	1.62	0.6	1.86	7.5	5.52	0	2.46	8.2	-34	1	142	9.61
1203			19.06	0.7	1.63	0.6	1.74	6.5	5.52	0	2.26	8.1	-34	0	134	9.61

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-100A Boring or Well ID: W-100A Sample Date & Time: 9-26-13 13:10
Lab No.: Boring or Well Location: Sample Street Complex Client: UEA
Sampling Personnel: David Nye Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 5-10 mph Precipitation: Site Location: 3702 West Sample St., South Bend, IN
Temp.: 72°F Humidity: High / Moderate / (Low) / ____ % Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other:
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other:
Screen / Casing Inside Diameter: 1 Inches Screened / Open Interval: ____ Ft Screen Slot Size: ____
Elevation Top of Casing (TOC): ____ Ft Grade Elevation: ____ Ft Survey Info: ____
SWL Depth from TOC (prior to purge): 10.64 Ft SWL Elevation (prior to purge): ____ Ft
Well / Sampler Depth from TOC: 33.98 Ft TOC to Grade: (-0.45) Ft Well Depth from Grade: ____ Ft
Volume/Foot Casing (d^2x0.04079): ____ Gal/Ft Volume of Water Column: ____ Gallons
Volume of Water Purged: 1.3 Gallons Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) Pump Intake Depth: 33 Ft below TOC Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) Other:
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: ____ Size: ____ Pore: ____

Water Sample Appearance: (Clear) / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
12:45			21.50	NA	1.22	NA	11.90	NA	5.54	NA	162	NA	-15	NA	200	
1251			16.70		1.48		2.79		5.51		59.5		-31		200	
1254			16.67		1.49		2.03	27.2	5.49		30.7	48.4	-32		200	
1257			16.69	0.1	1.49	0	2.02	0.5	5.49	0	28.2	8.1	-33	1	194	
1300			16.72	0.2	1.50	0.7	1.82	9.9	5.49	0	25.5	9.6	-35	2	192	
1303			16.69	0.2	1.50	0	1.69	7.1	5.48		23.2	9.0	-36	1	190	

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-100B | Boring or Well ID: W-100B | Sample Date & Time: 9-26-13 1400
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 5-10 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 74°F Humidity: High / Moderate / (Low) / _____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 1 Inches | Screened / Open Interval: _____ Ft | Screen Slot Size: _____
Elevation Top of Casing (TOC): _____ Ft | Grade Elevation: _____ Ft | Survey Info: _____
SWL Depth from TOC (prior to purge): 10.71 Ft | SWL Elevation (prior to purge): _____ Ft
Well / Sampler Depth from TOC: 50.9 Ft | TOC to Grade: (-0.40) Ft | Well Depth from Grade: _____ Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft | Volume of Water Column: _____ Gallons
Volume of Water Purged: 1.3 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump / (other: peristaltic) | Pump Intake Depth: 49 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: _____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1335			19.43	NA	1.42	NA	17.79	NA	5.53	NA	5.53	NA	-41	NA	198	
1341			17.35		1.49		2.42		5.59		5.30		-58		192	
1344			17.20		1.50		1.98	18.2	5.60		14.20	168	-60		186	
1347			17.14	0.3	1.51	0.7	1.86	6.1	5.60	0	15.5	9.2	-62	2	184	
1350			17.10	0.2	1.51	0	1.67	10	5.62	0.02	15.0	3.2	-63	1	184	
1353			17.01	0.5	1.52	0.7	1.66	0.6	5.63	0.01	13.8	8.0	-64	1	194	
1356			17.04	0.2	1.52	0	1.68	1.2	5.61	0.02	12.6	8.7	-64	0	198	

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-101 A
Boring or Well ID: W-101 A
Sample Date & Time: 9-26-13 1500
Lab No.:
Boring or Well Location: Sample Street Complex
Client: UEA
Sampling Personnel: David Nye
Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 0-5 mph Precipitation: None
Temp.: 76°F Humidity: High / Moderate / (Low) / _____ %
Site Location: 3702 West Sample St., South Bend, IN
Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 1 Inches
Screened / Open Interval: _____ Ft
Screen Slot Size: _____
Elevation Top of Casing (TOC): _____ Ft
Grade Elevation: _____ Ft
Survey Info: _____
SWL Depth from TOC (prior to purge): 11.20 Ft
SWL Elevation (prior to purge): _____ Ft
Well / Sampler Depth from TOC: 34.64 Ft
TOC to Grade: (-0.27) Ft
Well Depth from Grade: _____ Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft
Volume of Water Column: _____ Gallons
Volume of Water Purged: 0.9 Gallons
Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) Pump Intake Depth: 33 Ft below TOC
Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2
Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: _____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____
Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1440			24.55	NA	1.95	NA	5.90	NA	4.75	NA	4.30	NA	-19	NA	160	
1446			18.92		2.33		2.04		5.73		0.00		-46		168	
1449			18.86	0.3	2.33	0	1.87	8.3	5.70	0.03	0.00	0	-48	2	160	
1452			18.72	0.7	2.31	0.9	1.79	4.3	5.69	0.01	0.00	0	-50	2	162	
1455			18.33	2.1	2.30	0.4	1.67	6.7	5.66	0.03	0.00	0	-50	0	164	

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-101B | Boring or Well ID: W-101B | Sample Date & Time: 9-26-13 15:50
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 0-5 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 77°F Humidity: High / Moderate / (Low) / _____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 1 Inches | Screened / Open Interval: _____ Ft | Screen Slot Size: _____
Elevation Top of Casing (TOC): _____ Ft | Grade Elevation: _____ Ft | Survey Info: _____
SWL Depth from TOC (prior to purge): 11.19 Ft | SWL Elevation (prior to purge): _____ Ft
Well / Sampler Depth from TOC: 46.35 Ft | TOC to Grade: (-0.3) Ft | Well Depth from Grade: _____ Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft | Volume of Water Column: _____ Gallons
Volume of Water Purged: 0.7 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) | Pump Intake Depth: 45 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: _____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1525			24.64	NA	1.50	NA	13.98	NA	5.61	NA	199	NA	-53	NA	198	
1531			18.55		2.05		2.15		5.64		74.8		-59		190	
1534			19.22	3.6	2.06	0.5	1.80	16.3	5.63	0.01	61.9	17.2	-60	1	190	
1537			20.19	4.8	2.06	0	1.99	10.6	5.62	0.01	48.4	21.8	-61	1	188	
1540			20.53	1.7	2.06	0	1.81	9.0	5.62	0	43.8	9.5	-63	2	185	
1543			20.62	0.4	2.05	0.5	1.64	9.4	5.62	0	39.1	9.4	-64	1	170	
1546			20.46	0.8	2.05	0	1.56	4.9	5.61	0.01	35.8	9.8	-64	0	164	

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-16 | Boring or Well ID: W-16 | Sample Date & Time: 9-26-13 17:15
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 0-5mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 78°F Humidity: High / Moderate / (Low) / ____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other:
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other:
Screen / Casing Inside Diameter: 4 Inches | Screened / Open Interval: Ft | Screen Slot Size:
Elevation Top of Casing (TOC): Ft | Grade Elevation: Ft | Survey Info:
SWL Depth from TOC (prior to purge): 13.25 Ft | SWL Elevation (prior to purge): Ft
Well / Sampler Depth from TOC: 60.55 Ft | TOC to Grade: 3.4 Ft | Well Depth from Grade: Ft
Volume/Foot Casing (d^2x0.04079): Gal/Ft | Volume of Water Column: Gallons
Volume of Water Purged: 1.3 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) | Pump Intake Depth: 57 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other:
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: Size: Pore:
Water Sample Appearance: (Clear) / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1650			28.71	NA	1.11	NA	8.06	NA	5.70	NA	4.44	NA	-12	NA	198	13.25
1656			18.06		2.34		2.55		5.67		1.66		-46		194	13.25
1659			17.94		2.33		2.00	21.6	5.63		1.70		-47		192	13.26
1702			17.82		2.33	0	1.84		5.60	0.03	0.00		-48	1	190	13.30
1705			17.98	0.9	2.31	0.9	1.72	6.5	5.56	0.04	0.00	0	-49	1	184	13.32
1708			17.95	0.2	2.31	0	1.70	1.2	5.55	0.01	0.00	0	-49	0	182	13.35
1711			17.93	0.1	2.30	0.4	1.61	5.3	5.55	0	0.00	0	-50	1	180	13.35

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-15A | Boring or Well ID: W-15A | Sample Date & Time: 9-26-13 18:05
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 0-5 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 78°F Humidity: High / Moderate / (Low) / _____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 2 Inches | Screened / Open Interval: _____ Ft | Screen Slot Size: _____
Elevation Top of Casing (TOC): _____ Ft | Grade Elevation: _____ Ft | Survey Info: _____
SWL Depth from TOC (prior to purge): 12.41 Ft | SWL Elevation (prior to purge): _____ Ft
Well / Sampler Depth from TOC: 35.30 Ft | TOC to Grade: 2.7 Ft | Well Depth from Grade: _____ Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft | Volume of Water Column: _____ Gallons
Volume of Water Purged: 1.0 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) | Pump Intake Depth: 33 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: _____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1745			20.43	NA	2.33	NA	7.42	NA	5.51	NA	34.6	NA	-32	NA	198	12.41
1751			18.61		2.39		1.97		5.56		30.6		-41		194	12.41
1754			18.47	0.8	2.38	0.4	1.79	9.1	5.58	0.02	30.1	1.6	-43	2	194	12.41
1757			18.39	0.4	2.38	0	1.64	8.4	5.56	0.02	27.2	9.6	-44	1	192	12.41
1800			18.38	0.1	2.36	0.8	1.54	6.1	5.58	0.02	24.6	9.6	-45	1	194	12.41

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-15 B Boring or Well ID: W-15 B Sample Date & Time: 9-26-13 @ 18:25

Lab No.: Boring or Well Location: Sample Street Complex Client: UEA

Sampling Personnel: David Nye Project No.: 5093-12-01:05

Weather: Sky: Ground: Wind: Precipitation: Site Location: 3702 West Sample St., South Bend, IN

Temp.: Humidity: High / Moderate / Low / ____ % Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other:

Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other:

Screen / Casing Inside Diameter: 2 Inches Screened / Open Interval: Ft Screen Slot Size:

Elevation Top of Casing (TOC): Ft Grade Elevation: Ft Survey Info:

SWL Depth from TOC (prior to purge): Dry Ft SWL Elevation (prior to purge): Ft

Well / Sampler Depth from TOC: 11.58 Ft TOC to Grade: 2.10 Ft Well Depth from Grade: Ft

Volume/Foot Casing (d^2x0.04079): Gal/Ft Volume of Water Column: Gallons

Volume of Water Purged: Gallons Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) Pump Intake Depth: Ft below TOC Field Meter Type(s): Horiba U-50

Pump Make /Model: Geopump 2 Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) Other:

Tubing Diameter: (circle) 0.19 Inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)

Filtration Method: (Gravity / Vacuum / Pressure) None

Filter: (Cartridge / Paper) Type: Size: Pore:

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)

(Color: Gray / Brown / Tan /)

Were Samples Iced after Collection? YES / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C)		SPECIFIC CONDUCTIVITY 3% (mS/cm)		DISSOLVED OXYGEN 10% (mg/l)		pH 0.1 units (pH units)		TURBIDITY 10% (NTU)		ORP 10 mv (mv)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
							DRY at 11.58'									

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-14A | Boring or Well ID: W-14A | Sample Date & Time: 9-26-13 19:05
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 0-5 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 76°F Humidity: High / Moderate / (Low) ____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: ____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: ____
Screen / Casing Inside Diameter: 4 Inches | Screened / Open Interval: ____ Ft | Screen Slot Size: ____
Elevation Top of Casing (TOC): ____ Ft | Grade Elevation: ____ Ft | Survey Info: ____
SWL Depth from TOC (prior to purge): 12.94 Ft | SWL Elevation (prior to purge): ____ Ft
Well / Sampler Depth from TOC: 60.95 Ft | TOC to Grade: 2.5 Ft | Well Depth from Grade: ____ Ft
Volume/Foot Casing (d^2x0.04079): ____ Gal/Ft | Volume of Water Column: ____ Gallons
Volume of Water Purged: 1.2 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) | Pump Intake Depth: 55 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) / Other: ____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: ____ Size: ____ Pore: ____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? (YES) / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1840			26.08	NA	1.06	NA	10.10	NA	5.32	NA	28.6	NA	-41	NA	200	12.94
1846			18.92		2.02		2.31		5.61		3.47		-57		200	12.95
1849			18.87		2.02	0	1.97	14.7	5.60		2.34	32.6	-61		182	12.97
1852			18.80		2.03		1.96	10.7	5.59		2.02		-62		178	12.96
1855			19.01	1.1	2.03	0	1.63	7.3	5.57	0.02	1.88	6.9	-63	1	166	12.96
1858			19.50	2.6	2.03	0	1.55	4.9	5.56	0.01	2.00	6.4	-64	1	160	12.96
1901			19.58	0.4	2.03	0	1.53	1.3	5.55	0.01	1.82	9.0	-65	1	148	12.96

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-14B
Lab No.:
Sampling Personnel: David Nye
Weather: Sky: Clear Ground: dry Wind: 5-10 mph Precipitation: None
Temp.: 71°F Humidity: High / Moderate / (Low) / _____ %

Boring or Well ID: W-14B
Boring or Well Location: Sample Street Complex

Sample Date & Time: 9-27-13 11:25
Client: UEA
Project No.: 5093-12-01:05
Site Location: 3702 West Sample St., South Bend, IN
Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 2 Inches
Elevation Top of Casing (TOC): _____ Ft
SWL Depth from TOC (prior to purge): 13.51 Ft
Well / Sampler Depth from TOC: 44.13 Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft
Volume of Water Purged: 1.1 Gallons

Screened / Open Interval: _____ Ft
Grade Elevation: _____ Ft
SWL Elevation (prior to purge): _____ Ft
TOC to Grade: 2.9 Ft
Volume of Water Column: _____ Gallons
Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Screen Slot Size: _____
Survey Info: _____
Well Depth from Grade: _____ Ft

Pump Type: (circle): Bladder Pump (other: peristaltic)
Pump Make /Model: Geopump 2
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Pump Intake Depth: 43 Ft below TOC
Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) Other: _____

Field Meter Type(s): Horiba U-50

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear) / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? YES / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE 3% (degrees C) CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY 3% (mS/cm) CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN 10% (mg/l) CHANGE*	pH 0.1 units (pH units) READING	pH 0.1 units (pH units) CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY 10% (NTU) CHANGE*	ORP 10 mv (mv) READING	ORP 10 mv (mv) CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1100			23.29	NA	1.31	NA	11.11	NA	5.03	NA	19.0	NA	140	NA	182	13.51
1106			19.26		1.42		2.58		5.62		8.43		-52		196	13.51
1109			19.00		1.42	0	2.20	14.7	5.58		14.8		-52	0	200	13.51
1112			18.84	0.8	1.43	0.7	1.99	9.5	5.60	0.02	15.3	3.4	-56	4	196	13.51
1115			18.76	0.4	1.44	0.7	1.86	6.5	5.60	0	16.8	9.8	-57	1	200	13.51
1118			18.84	0.4	1.45	0.7	1.78	4.3	5.61	0.01	18.4	9.5	-58	1	196	13.51

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-13 | Boring or Well ID: W-13 | Sample Date & Time: 9-27-13 12:25
Lab No.: | Boring or Well Location: Sample Street Complex | Client: UEA
Sampling Personnel: David Nye | Project No.: 5093-12-01:05
Weather: Sky: clear Ground: dry Wind: 5-10 mph Precipitation: None | Site Location: 3702 West Sample St., South Bend, IN
Temp.: 74°F Humidity: High / Moderate / (Low) / _____ % | Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 2 Inches | Screened / Open Interval: _____ Ft | Screen Slot Size: _____
Elevation Top of Casing (TOC): _____ Ft | Grade Elevation: _____ Ft | Survey Info: _____
SWL Depth from TOC (prior to purge): 11.57 Ft | SWL Elevation (prior to purge): _____ Ft
Well / Sampler Depth from TOC: 35.48 Ft | TOC to Grade: (-0.24) Ft | Well Depth from Grade: _____ Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft | Volume of Water Column: _____ Gallons
Volume of Water Purged: 0.8 Gallons | Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Pump Type: (circle): Bladder Pump (other: peristaltic) | Pump Intake Depth: 33 Ft below TOC | Field Meter Type(s): Horiba U-50
Pump Make /Model: Geopump 2 | Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) | Other: _____
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? YES / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1205			25.11	NA	0.503	NA	11.41	NA	5.46	NA	0.00	NA	-78	NA	200	11.57
1211			18.37		1.03		9.90		5.68		0.00		-65		186	11.57
1214			18.31	0.3	1.03	0	9.51	3.9	5.66	0.02	0.00	0	-65	0	180	11.57
1217			18.20	0.6	1.03	0	9.21	3.2	5.66	0	0.00	0	-65	0	180	11.57
1220			18.18	0.1	1.02	1.0	9.00	2.3	5.65	0.01	0.00	0	-64	1	178	11.57

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sheet 1 of 1

Sample ID: W-10 B
Lab No.:
Sampling Personnel: David Nye
Weather: Sky: clear Ground: dry Wind: 5-10 mph Precipitation: None
Temp.: 76°F Humidity: High / Moderate / (Low) / _____ %

Boring or Well ID: W-10 B
Boring or Well Location: Sample Street Complex

Sample Date & Time: 9-27-13 13:55
Client: UEA
Project No.: 5093-12-01:05
Site Location: 3702 West Sample St., South Bend, IN
Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: 2 Inches
Elevation Top of Casing (TOC): _____ Ft
SWL Depth from TOC (prior to purge): 12.61 Ft
Well / Sampler Depth from TOC: 31.31 Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft
Volume of Water Purged: 1.2 Gallons

Screened / Open Interval: _____ Ft
Grade Elevation: _____ Ft
SWL Elevation (prior to purge): _____ Ft
TOC to Grade: 2.5 Ft
Volume of Water Column: _____ Gallons
Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Screen Slot Size: _____
Survey Info: _____
Well Depth from Grade: _____ Ft

Pump Type: (circle): Bladder Pump (other: peristaltic)
Pump Make /Model: Geopump 2
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Pump Intake Depth: 30 Ft below TOC
Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) Other: _____

Field Meter Type(s): Horiba U-50

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? YES / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1330			23.94	NA	0.443	NA	8.59	NA	4.93	NA	6.57	NA	80	NA	200	12.61
1336			18.91		0.935		3.73		5.74		0.00		120		198	12.61
1339			18.87		0.933		2.91	22.0	5.74		0.00		117		196	12.61
1342			18.80		0.931		2.61	10.3	5.74		0.00		114		200	12.61
1345			18.78	0.1	0.929	0.2	2.44	6.5	5.73	0.01	0.00	0	113	1	196	12.61
1348			18.74	0.2	0.928	0.1	2.66	9.0	5.74	0.01	0.00	0	110	3	198	12.61
1351			18.73	0.1	0.925	0.3	2.47	7.1	5.74	0	0.00	0	109	1	196	12.61

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

Sheet 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Sample ID: W-10 A
Lab No.:
Sampling Personnel: David Nye
Weather: Sky: clear Ground: dry Wind: 5-10 mph Precipitation: None
Temp.: 70F Humidity: High / Moderate / (Low) / _____ %

Boring or Well ID: W-10 A
Boring or Well Location: Sample Street Complex

Sample Date & Time: 9-27-13 15:05
Client: UEA
Project No.: 5093-12-01:05
Site Location: 3702 West Sample St., South Bend, IN
Laboratory: Envision Laboratories, Indianapolis, IN

Sample Type: (circle) (Permanent Monitoring Well) / Temporary Monitoring Well / Geoprobe® SP16 Sampler / Other: _____
Well / Sampler Material: (circle) PVC / Stainless / Galvanized / Other: _____
Screen / Casing Inside Diameter: _____ Inches
Elevation Top of Casing (TOC): _____ Ft
SWL Depth from TOC (prior to purge): 12.54 Ft
Well / Sampler Depth from TOC: 62.1 Ft
Volume/Foot Casing (d^2x0.04079): _____ Gal/Ft
Volume of Water Purged: 1.6 Gallons

Screened / Open Interval: _____ Ft
Grade Elevation: _____ Ft
SWL Elevation (prior to purge): _____ Ft
TOC to Grade: 2.3 Ft
Volume of Water Column: _____ Gallons
Well Volume Purged: (circle) 1 2 3 4 5 6 7 8 9 10 well volumes

Screen Slot Size: _____
Survey Info: _____
Well Depth from Grade: _____ Ft

Pump Type: (circle): Bladder Pump (other: peristaltic)
Pump Make /Model: Geopump 2
Tubing Diameter: (circle) 0.19 inch ID x 0.44 inch OD / 0.19 inch ID x 0.25 inch OD / 0.31 inch IDx 0.44 inch OD / Other: (0.125 inch ID x 0.25 inch OD)

Pump Intake Depth: 55 Ft below TOC
Tubing Type (circle): Tefon® FEP (inner)-HDPE (outer) / Tefon® FEP / (LDPE) Other: _____

Field Meter Type(s): Horiba U-50

Were Metals Filtered Prior to Preservation?: (circle) Yes / No / Yes & No (Metals Not Sampled)
Filtration Method: (Gravity / Vacuum / Pressure) None
Filter: (Cartridge / Paper) Type: _____ Size: _____ Pore: _____

Water Sample Appearance: (Clear / Slightly Turbid / Moderately Turbid / Very Turbid)
(Color: Gray / Brown / Tan /)
Were Samples Iced after Collection? YES / NO /

TIME	PURGING	SAMPLING	TEMPERATURE 3% (degrees C) READING	TEMPERATURE CHANGE*	SPECIFIC CONDUCTIVITY 3% (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	DISSOLVED OXYGEN 10% (mg/l) READING	DISSOLVED OXYGEN CHANGE*	pH 0.1 units (pH units) READING	pH CHANGE*	TURBIDITY 10% (NTU) READING	TURBIDITY CHANGE*	ORP 10 mv (mv) READING	ORP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1430			27.69	NA	0.333	NA	12.30	NA	5.09	NA	35.5	NA	107	NA	190	12.54
1436			19.80		1.29		6.08		5.74		5.52		96		186	12.54
1439			19.44		1.45	12.4	5.62		5.75		16.1		-4		182	12.54
1442			19.40		1.62	11.7	4.42		5.78		11.3		-32		184	12.54
1445			19.28		1.69		2.73	38.2	5.75		4.51		-42		184	12.54
1448			19.25		1.71		2.12	22.3	5.72		2.10		-46		180	12.54
1451			19.17		1.72		1.79	15.6	5.70		2.28		-48		182	12.54
1454			19.09	0.4	1.72	0	1.67	6.7	5.69	0.01	2.09	8.3	-49	1	186	12.54
1457			19.06	0.2	1.73	0.6	1.59	4.8	5.68	0.01	2.25	7.7	-50	1	182	12.54
1500			19.10	0.2	1.73	0	1.52	4.4	5.67	0.01	2.42	7.6	-51	1	180	12.54

COMMENTS:

*Indicator parameters have stabilized when 3 consecutive readings are within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.