2015 Annual Groundwater Monitoring Report

Montague, Michigan
MID 006 014 906

Glenn Springs Holdings, Inc.

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009970 | Report No 42 | February 2016

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1. Introduction

Glenn Springs Holdings, Inc. (GSH) is performing corrective actions at the former Occidental Chemical Corporation (OCC) manufacturing facility in Montague, Michigan (the Facility). These corrective actions are being performed, in part, to comply with the requirements of an Administrative Order (AO) issued by the United States Environmental Protection Agency (USEPA) dated March 24, 1993. At the completion of the Resource Conservation and Recovery Act (RCRA) Facility Investigation and the Corrective Measures Study, the USEPA issued the Amended Final Decision and Response to Comments in October 2010 (Final Decision) stating the corrective action requirements for the Facility. On July 19, 2012, the USEPA (Mr. Ken Bardo) issued a letter stating "Remedy Construction Complete" and that operation, maintenance and monitoring are ongoing to ensure that the constructed remedy remains protective of human health and the environment.

The Final Decision requires groundwater monitoring at the Facility. Section 4 of the Program Management Plan presents the management approach for the groundwater monitoring. The groundwater monitoring program is defined in the document entitled "Groundwater Monitoring Plan (GMP) for the OCC Site in Montague, Michigan (USEPA ID No. MID 006014906)". The GMP was approved by the USEPA in January 2002.

The 2002 GMP replaces the previous groundwater monitoring plan for the Facility. In accordance with Paragraph XV of the Consent Judgment (October 31, 1979), GSH requested approval of the 2002 GMP from the Michigan Department of Natural Resources and Environment (MDNRE). The MDNRE Waste Management Division reviewed GSH's request for compliance with the Consent Judgment and Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act 1994, PA 451, as amended, and granted approval in a letter from the MDNRE (Jim Sygo) to GSH (Ken Price) dated July 18, 2002. The GMP was implemented following approval by the MDNRE. Prior to this date, groundwater monitoring activities were conducted in accordance with the 1979 Consent Judgment.

The Facility is located in Montague Township north of White Lake in Muskegon County, Michigan (Figure 1.1).

1.1 Objectives

The following are the objectives for the groundwater monitoring program. These objectives were defined in Section 1.1 of the GMP.

- Demonstrate that the groundwater collection system halts any unacceptable discharge of chlorinated organic compounds to White Lake
- Demonstrate, through monitoring, that the contaminated plume is stable and that impacted groundwater remains within the original "area of contamination"
- Develop information that will be used for future demonstration that the groundwater collection system is reducing the level of contamination in the aquifer

1.2 Report Organization

Three components have been developed within the GMP to address the three objectives presented above.

- Groundwater Collection Demonstration
- Plume Boundary Demonstration
- Concentrations Removed from Aquifer

This Annual Groundwater Monitoring Report summarizes the results of the 2015 groundwater sampling at the Montague Facility. The following four sections of this report present a summary of the monitoring components as outlined in the GMP. This report is subdivided by monitoring component, with each component divided into four subsections as follows:

i) Program Requirements

ii) Work Performed

iii) Results

iv) Data Evaluation

2. Groundwater Collection Demonstration

2.1 Program Requirements

As prescribed in the Final Decision, GSH continues to operate eight purge wells to collect and treat contaminated groundwater. The locations of the purge wells are shown on Figure 2.1. GSH is required to demonstrate that the groundwater collection system completely halts discharge of chlorinated organic compounds to White Lake in concentrations that exceed the criteria established under Rules 299.5728 and 299.5730 of Part 201, Environmental Remediation of Michigan's Natural Resources and Environmental Protection Act, MCL 324.20101 et seq.

This component of the monitoring program has been established to demonstrate that impacted groundwater is not discharging to White Lake. To accomplish this, a monitoring program has been implemented that will show that the 48-hour average water level in White Lake is at least 0.10 foot higher than the water level in the aquifer. If the water level in the aquifer is below the water level in White Lake, the groundwater gradient from the Lake tips inward toward the purge wells. When this condition exists, it can be concluded that the impacted groundwater is completely captured.

Six performance monitoring wells were installed in areas of the plume that are least likely to be influenced by the purge wells. The locations of the performance monitoring wells are shown on Figure 2.1. White Lake water levels are measured at a stilling well placed on a dock east of the performance monitoring network and shown on Figure 2.1.

A comparison of the level of White Lake to the level of water in the monitoring wells is performed on data collected at a minimum of 2 times per week, or over 100 times per year. Approximately 19,000 White Lake Level measurements are utilized in calculating average water levels (192 per event) every 12 months.

Monitoring methods and calculations are outlined in the GMP. The GMP requires that manual water level measurements be collected in each of the six performance monitoring wells and at White Lake (stilling well) at least two times per week. In addition, White Lake water levels are automatically collected every 15 minutes to calculate the corresponding average Lake levels for each semi-weekly water level collection event.

Reporting requirements and actions are outlined in the GMP. Monthly reports to the USEPA and MDNRE are required. Monthly reports summarize the calculated average monthly difference between the water level in the wells and in White Lake and report any necessary actions implemented to assure that the purge system maintains at least a 0.10-foot lower water level in all of the performance monitoring wells.

2.2 Work Performed

The groundwater collection demonstration monitoring was performed in accordance with the procedures and methods described in the approved GMP. Water level measurements in each of the six performance monitoring wells were collected at least two times per week. Water levels were measured from the top of each location's surveyed reference point (top of the well casing) to the nearest 0.01 foot using an electronic water level tape.

White Lake water levels were collected every 15 minutes with a Telog water level data recorder (data logger and pressure transducer). Water level recorder data were calibrated using the manual water level measurements obtained at the White Lake stilling well. Water level elevations were calculated by subtracting the manual depth to water level measurement from the surveyed reference point elevation.

Backup files of the electronic files were generated and stored at an off-Site location.

To maintain pumping rates so the average water level difference for each performance monitoring well each month is -0.10 foot lower than the average White Lake Level, GSH compares the daily average water level difference between each performance monitoring well and White Lake. If the daily average drops below the target level of -0.10 foot, the potential for an excursion exists and GSH implements corrective measures. Initially, GSH verifies water levels and pumping rates and may collect additional water level measurements and adjust pumping rates. Additional corrective measures include well redevelopment, well servicing, and cleaning. Additional corrective measures performed in 2015 are summarized below:

- Calgon Plant/Process Air Line Upgrade - Installed new 1-inch, schedule 40 steel to replace ¾-inch flex hose connections from process air supply compressor to Calgon Filter Building process air header (March 2015)
- Well Pc – cleaning of well screen and pump intake (April 2015)
- Well Pb – well cleaning and removal and replacement of pump assembly (April 2015)
- Well Pi – removal and replacement of motor assembly (April 2015)
- Well Pd – well cleaning and removal and replacement of pump motor (October 2015)
- Well Pe – cleaning of well screen and pump intake (October 2015)
- Well Pi – cleaning of well screen and pump intake (October 2015)

2.3 Results

The results of the performance monitoring are evaluated and submitted to USEPA and MDNRE monthly. Each monthly report presents a tabulation of water levels collected, summarizes purge well pumping data, provides an assessment of the average monthly performance of the six monitoring wells with White Lake level elevations, and demonstrates purge well efficiency.

Over 100 water levels were collected from the performance monitoring wells for comparison to corresponding average White Lake water levels. A tabulation of water level depths and calculated elevations are presented in Appendix A.

A summary of the calculated water level performance results for 2015 is presented in Table 2.1.

2.4 Data Evaluation

Examination of Table 2.1 shows that an inward hydraulic gradient was maintained at all times during 2015. The measured water level differential exceeded the required differential of 0.10 foot in two of the six performance monitoring wells at all times in2015. However, four wells, MW-1, MW-3, MW-5 and MW-6, showed inward gradients of less than 0.10 foot for 1 month in 2015. In May 2015, MW-1, MW-3, MW-5 and MW-6 had average differences of 0.07, 0.07, 0.03 and 0.03 foot, respectively, all in the inward direction. Despite maintaining an inward gradient of less than the required 0.10 foot during May, the four wells fulfilled that requirement for every other month in 2015. In addition, as Table 2.1 shows, all wells maintained a yearly-averaged inward gradient of more than 0.10 foot throughout 2015.

3. Plume Boundary Demonstration

3.1 Program Requirements

This component of the groundwater monitoring program has been established to demonstrate that the migration of contaminated groundwater has stabilized and that contaminated groundwater remains within the perimeter (boundary) of impacted groundwater delineated during the RCRA Facility Investigation.

The GMP requires that groundwater samples from 12 monitoring wells (B, C, MW-03-01, MW-97-02, MW-97-03, MW-97-04, MW-97-05, T, WW-2, WW-6, WW-13, and WW-24) be collected semiannually (twice per year) and analyzed for the parameters of concern listed in Table 3.1 in accordance with the approved GMP. MW-05-01 was added to the Plume Boundary Demonstration Program beginning with the May 2005 semiannual sampling event. MW-05-01 was added by GSH on a voluntary basis beyond the direct requirements of the AO to supplement the information on the plume boundary on the southwest side of the plume. The analytical results are compared to the groundwater protection standards also listed in Table 3.1. If the concentration of any parameter measured in the plume boundary monitoring well is greater than the groundwater protection standard, then contingency actions defined in the GMP are implemented, including resampling of the well for analysis of the constituent(s).

The locations of the plume boundary monitoring wells are presented on Figure 3.1.

3.2 Work Performed

Groundwater sampling occurred during May and November 2015. Groundwater sampling was performed in accordance with the procedures and analytical methods described in the approved GMP. Samples were collected and analyzed from all Plume Boundary Demonstration wells for the constituents of concern listed in Table 3.1 in accordance with the approved GMP. All samples were submitted to TriMatrix Laboratories (TriMatrix), located in Grand Rapids, Michigan, and were

analyzed using method SW-8260 for volatile organic compounds (VOCs) and SW-8121 for semi-volatile organic compounds (SVOCs). Chloride was analyzed using USEPA Method 325.2.

Prior to sample collection, each monitoring well was purged using the dedicated bladder pump. Purge water is collected and disposed of through the Site's carbon treatment system. Low-flow purging and sampling protocols were followed. During purging, field stabilization parameters were measured at 10-minute intervals using a YSI 556 meter and a flow-through cell. The following stabilization parameters were monitored: pH, temperature, conductivity, oxidation reduction potential (ORP), and dissolved oxygen (DO). Stabilization parameters were measured and recorded in the field. A summary of the final field stabilization parameters is presented in Appendix B. Groundwater samples were collected once stabilization was achieved.

Samples were collected, handled, and documented in accordance with the GMP. Appropriate sample volumes, container types, preservation procedures, and maximum holding times for the Site-specific analytical parameters were followed. Chain of custody protocol was strictly adhered to during all phases of sample collection, transport, and delivery to the analytical laboratory for analysis.

3.3 Results

Analytical results for the 2015 semiannual plume boundary demonstration monitoring events are summarized in Table 3.2. The applicable groundwater protection standards are also listed for comparison purposes.

3.4 Data Evaluation

Analytical results show that the concentrations of all constituents of concern are below applicable groundwater protection standards in all plume boundary demonstration monitoring wells. The analytical results confirm plume stability within the boundary of impacted groundwater delineated during the RCRA Facility Investigation.

Tetrachloroethene (PCE) was observed in monitoring well C (2.0 micrograms per liter [μg/L] [May] and 1.8 μg/L [November]) at concentrations below the more conservative groundwater protection standard (5.0 μg/L). Trichloroethene (TCE) was detected in monitoring well T (3.0 μg/L [May] and 2.8 μg/L [November]) at concentrations below the more conservative groundwater protection standard (5.0 μg/L). These results are consistent with the results from previous monitoring events.

No SVOCs were detected in any of the plume boundary demonstration monitoring wells.

Chloride concentrations ranged from 1,200 μg/L in monitoring well MW-03-01 (May 2015) to 120,000 μg/L in MW-97-02 (November 2015). Chloride concentrations were all below the more conservative groundwater protection standards listed in Table 3.1 (125,000 μg/L).

4. Concentration Removed from the Aquifer

4.1 Program Requirements

Eight purge wells are being pumped continuously as part of the groundwater collection system to remove impacted groundwater from the aquifer. Samples of the groundwater from each purge well are collected quarterly and analyzed for the parameters in Table 3.1. These analyses are intended

to provide a baseline of information on the concentrations of the compounds in the water being removed from the aquifer. These purge wells are located in a line extending across the plume of impacted groundwater, and samples from each purge well represent a view of the section of the aquifer upgradient from that purge well. The analysis of the groundwater collected at each purge well provides a basis for evaluating trends in the concentrations of contaminants in the groundwater and the rate of removal of contaminants.

The locations of the eight purge wells used to determine the concentration removed from the aquifer are shown on Figure 2.1.

4.2 Work Performed

Quarterly purge well groundwater sampling was performed in accordance with the procedures and analytical methods described in the approved GMP. Samples were collected and analyzed from all eight purge wells for the constituents of concern listed in Table 3.1. Samples were submitted to TriMatrix located in Grand Rapids, Michigan. All samples were analyzed using Method SW-8260 for VOCs and SW-8121 for SVOCs. Chloride was analyzed using USEPA Method 325.2.

Groundwater samples were collected from the purge wells on the following dates:

i) January 29, 2015

ii) April 29, 2015

iii) July 28, 2015

iv) October 30, 2015

Groundwater samples are collected from a sample tap located at each purge well pump house. Samples are collected, handled, and documented in accordance with the GMP. Appropriate sample volumes, container types, preservation procedures, and maximum holding times for the Site-specific analytical parameters were followed. Chain of custody protocol was strictly adhered to during all phases of sample collection, transport, and delivery to the analytical laboratory for analysis.

4.3 Results

A summary of the purge well pumping rates is presented in Table 4.1. The pumping rate data, along with the pumping well analytical data, were used to estimate the mass removed from the aquifer. All 2015 purge well analytical results are summarized in Table 4.2. Individual concentrations versus time graphs for each purge well are presented in Appendix C. The concentrations versus time graphs illustrate data since the inception of pumping. The calculation of the total VOCs and SVOCs removed from the purge well system is summarized in Table 4.3, while the rate of mass removal is illustrated on Figure 4.1.

4.4 Data Evaluation

Examination of Table 4.1 shows that the average monthly flow rate of the entire purge well system was approximately 705 gallons per minute (GPM). The variation in total flow rate was small. The monthly pumping rates in the individual purge wells ranged from 10 GPM in well Pf to 135 GPM in well Ph. Overall, approximately 370 million gallons of groundwater were pumped in 2015. The operation of the purge well system is consistent with previous years as shown in the table below.

Table 4.1 Purge Well Operation

Year	Average Pumping Rate (GPM)	Annual Total Volume (million gallons)	Average Operating Efficiency (percent
2004	653	343	99
2005	660	348	99
2006	695	365	98
2007	674	354	99
2008	633	334	99
2009	724	381	97
2010	681	357	98
2011	687	360	95
2012	712	375	97
2013	714	375	96
2014	692	364	98
2015	705	370	99

Examination of Table 4.2 shows that the highest VOCs concentration occurs in well Pg. PCE concentrations in well Pg ranged from 6,800 µg/L (October 2015) to 7,500 µg/L (January 2015). Carbon tetrachloride concentrations in well Pg ranged from 1,200 µg/L (January and April 2015) to 1,400 µg/L (October 2015). PCE is the primary constituent of concern in all the purge wells. The highest PCE concentrations following Pg occurred in wells Pi (1,500 µg/L to 1,700 µg/L), Pd (1,200 µg/L to 1,400 µg/L), and Pb (850 µg/L to 1,200 µg/L). Carbon tetrachloride is typically found at the next highest concentration. The highest carbon tetrachloride concentrations following Pg occurred in wells Pd (120 µg/L to 130 µg/L), Pi (80 µg/L to 110 µg/L), and Pb (40 µg/L to 73 µg/L).

The 2015 analytical results are consistent with historical data. The purge well exhibiting the highest concentrations of these constituents is Pg. In general, the concentrations versus time graphs show a stable or decreasing trend in the constituents of concern concentrations over time. Purge well Pb had historically increasing PCE concentrations; however, concentrations have decreased since 2005. Purge well Pi had elevated PCE concentrations from 2005 to mid-2011 that fluctuated from less than 2,000 µg/L to greater than 3,000 µg/L (pre-2005 concentrations were stable from 1992 to 2004 and ranged from less than 500 µg/L to less than 2,000 µg/L). The PCE concentrations in October 2011 decreased significantly to less than 500 µg/L. Concentrations then increased in 2012 to near pre-2005 levels and have remained at those levels throughout 2015. Pi, Pb, and Pc purge wells are located in the central area of the plume. Purge well Pf continues to exhibit VOC and SVOC concentrations well below the criteria.

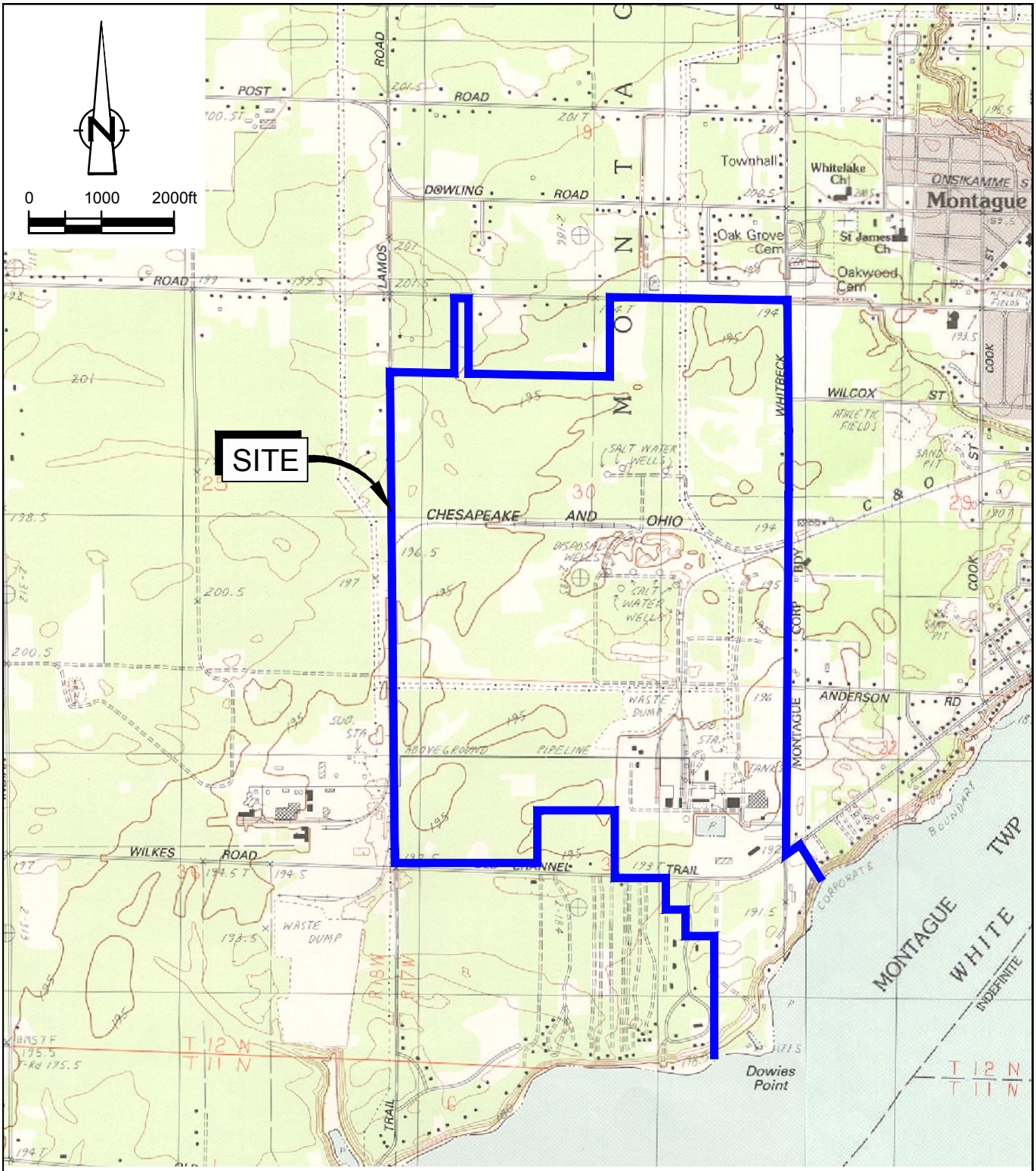
A summary of the total mass of VOCs and SVOCs removed in 2015 is shown in Table 4.3. Examination of this table indicates that greater than 4,800 pounds of VOCs and SVOCs were removed by the purge wells during 2015. Purge well Pf removed very little mass (0.287 pounds). The majority of the mass was removed by purge wells Pg (2,731 pounds), Pi (659 pounds), Pd (760 pounds), Pb (333 pounds) and Ph (258 pounds).

In general, as shown on Figure 4.1, the rate of mass removal has declined steadily from approximately 27 pounds/day in 1990 to an annual average rate of approximately 13 pounds/day in 2015. The 2015 removal rate is shown below with the previous 5 years of removal rates.

Table 4.2 Historical Rate of Mass Removal

Year	Annual Total Mass Removed (pounds)	Mass Removal Rate (pounds/day)
2010	5,803	16
2011	4,369	12
2012	4,835	13
2013	4,418	12
2014	4,423	12
2015	4,830	13

Figures



SOURCE: USGS QUADRANGLE MAPS;
MONTAGUE, FLOWER CREEK, AND MICHIGAN 1983

figure 1.1

SITE LOCATION
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

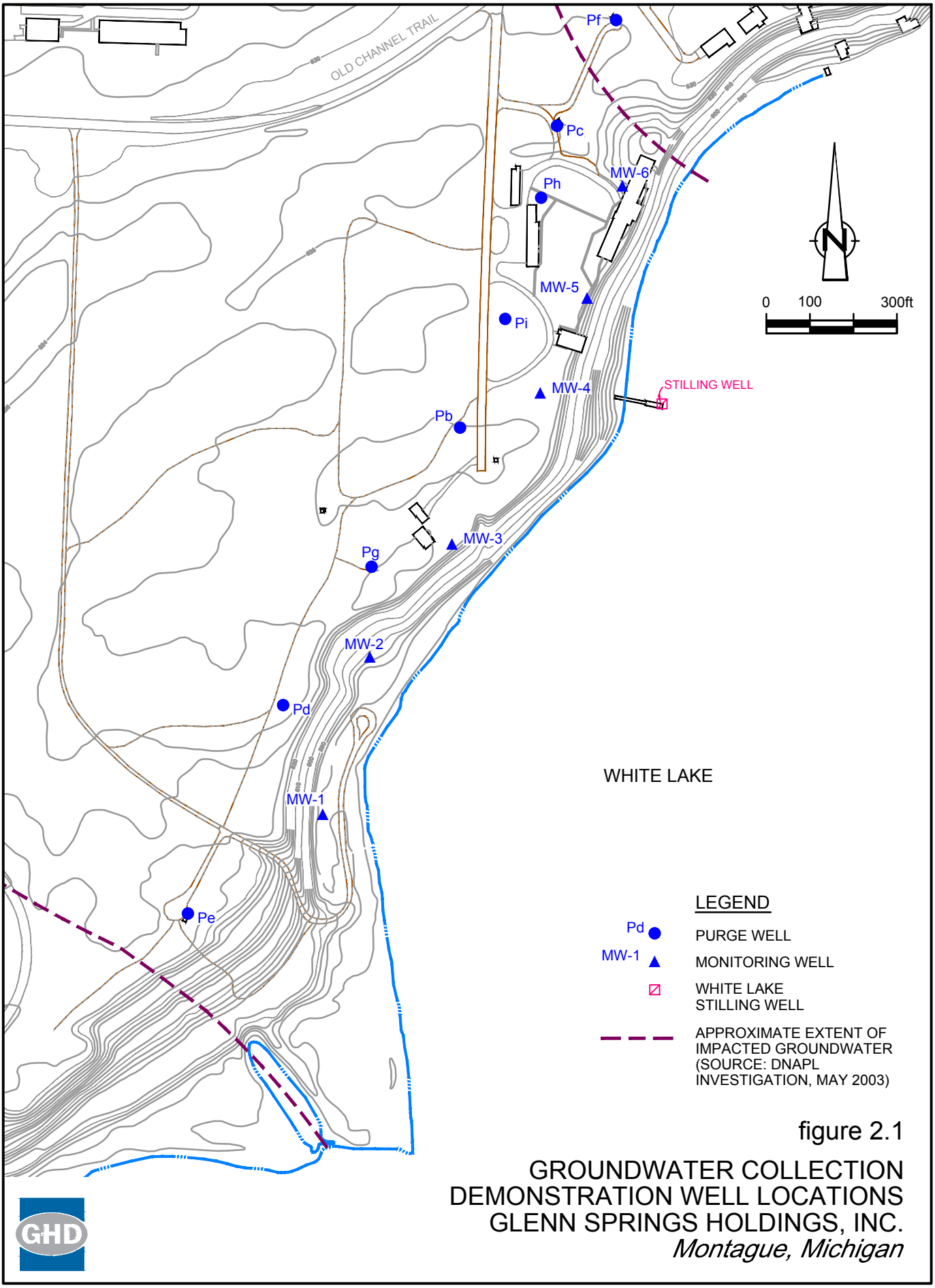


figure 2.1

GROUNDWATER COLLECTION DEMONSTRATION WELL LOCATIONS
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

GHD

09970-D23101(042)GN-WA002 FEB 18/2016

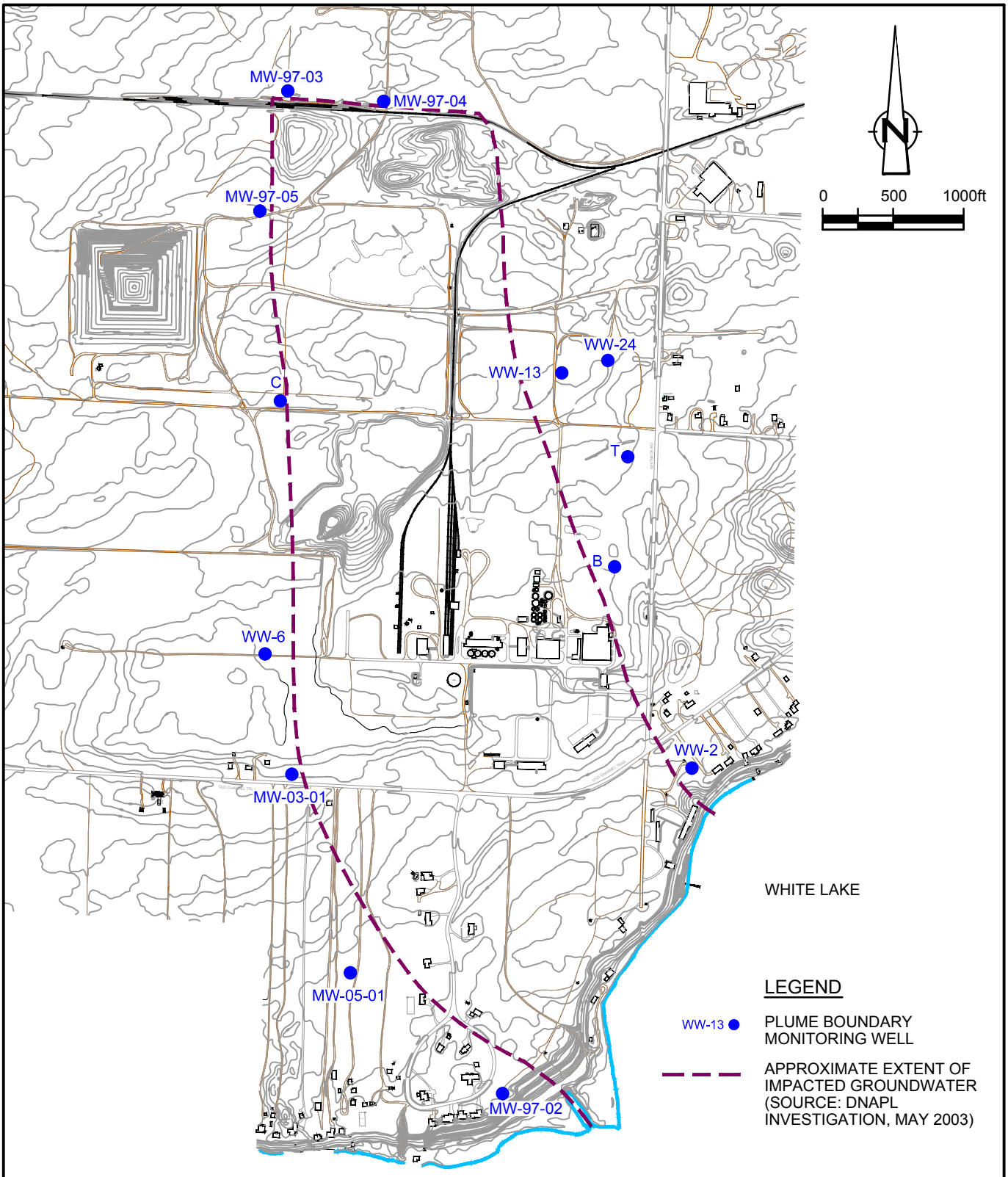


figure 3.1

PLUME BOUNDARY WELL LOCATIONS
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

GHD

09970-D23101(042)GN-WA003 FEB 18/2016

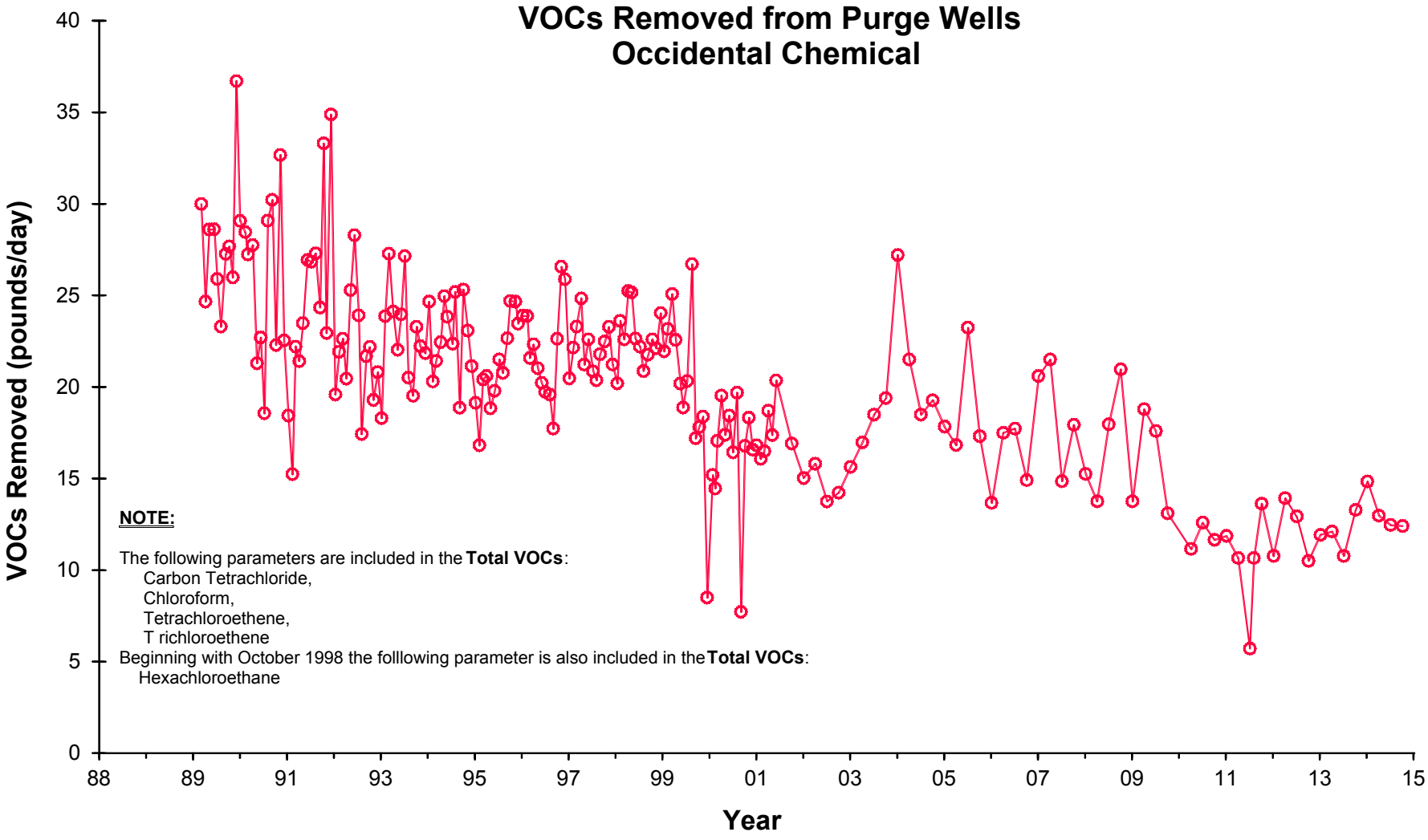


figure 4.1

ORGANICS REMOVED DAILY VS TIME
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

Tables

Table 2.1

Summary of Performance Results - 2015
Groundwater Monitoring Plan
Glenn Springs Holdings, Inc.
Montague, Michigan

Month	White Lake Elevation (ft. AMSL)	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6	
		Avg. Difference (feet)	Avg. Elevation (ft. AMSL)	Avg. Difference (feet)	Avg. Elevation (ft. AMSL)	Avg. Difference (feet)	Avg. Elevation (ft. AMSL)	Avg. Difference (feet)	Avg. Elevation (ft. AMSL)	Avg. Difference (feet)	Avg. Elevation (ft. AMSL)	Avg. Difference (feet)	Avg. Elevation (ft. AMSL)
January	580.01	-0.32	579.69	-0.38	579.63	-0.28	579.73	-0.54	579.47	-0.23	579.78	-0.28	579.73
February	580.09	-0.34	579.75	-0.37	579.72	-0.26	579.83	-0.48	579.61	-0.21	579.88	-0.27	579.82
March	579.98	-0.26	579.72	-0.29	579.69	-0.17	579.81	-0.35	579.63	-0.13	579.85	-0.24	579.74
April	580.25	-0.39	579.86	-0.47	579.78	-0.33	579.92	-0.58	579.67	-0.25	580.00	-0.30	579.95
May	580.18	-0.07	580.11	-0.21	579.97	-0.07	580.11	-0.54	579.64	-0.03	580.15	-0.03	580.15
June	580.77	-0.28	580.49	-0.40	580.37	-0.30	580.47	-0.74	580.03	-0.29	580.48	-0.26	580.51
July	580.93	-0.35	580.58	-0.44	580.49	-0.33	580.60	-0.78	580.15	-0.35	580.58	-0.34	580.59
August	580.73	-0.21	580.52	-0.27	580.46	-0.16	580.57	-0.48	580.25	-0.21	580.52	-0.22	580.51
September	580.55	-0.12	580.43	-0.16	580.39	-0.12	580.43	-0.45	580.10	-0.11	580.44	-0.12	580.43
October	580.24	-0.15	580.09	-0.15	580.09	-0.15	580.09	-0.55	579.69	-0.21	580.03	-0.18	580.06
November	580.19	-0.17	580.02	-0.23	579.96	-0.15	580.04	-0.51	579.68	-0.14	580.05	-0.16	580.03
December	580.23	-0.26	579.97	-0.35	579.88	-0.35	579.88	-0.68	579.55	-0.29	579.94	-0.27	579.96
YEAR 2015 AVERAGE	580.35	-0.24	580.10	-0.31	580.04	-0.22	580.12	-0.56	579.79	-0.20	580.14	-0.22	580.12

Notes:

ft. AMSL - Feet Above Mean Sea Level

Table 3.1

Analytical Parameters
Groundwater Monitoring Plan
Glenn Springs Holdings, Inc.
Montague, Michigan

Compound	Short Name	Analytical Method Number	Reporting Limit (µg/L)	Residential and Commercial Drinking Water Criteria (µg/L)	Groundwater Surface Water Interface Criteria (µg/L)
Hexachlorobenzene	C-66	8121	0.01	1.0	**0.2**
Hexachlorocyclopentadiene	C-56	8121	0.01	**50**	ID
Octachlorocyclopentene	C-58	8121	1.0	**50**	ID
Hexachlorobutadiene	C-46	8121	0.01	15	**0.053**
Hexachloroethane		8121	2.0	7.3	**6.7**
Tetrachloroethene	PCE	8260	1.0	**5.0**	60
Trichloroethene	TCE	8260	1.0	**5.0**	200
Carbon tetrachloride		8260	1.0	**5.0**	45
Chloroform		8260	1.0	**80**	350
Chloride		325.3	1000	250000	**125000**
cis-1,2-Dichloroethylene		8260	0.5	**70**	620
trans-1,2-Dichloroethylene		8260	0.5	**100**	1500

Notes:

Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria
µg/L - Microgram per liter
ID - Inadequate Data
NA - Not Applicable

Table 3.2

Analytical Results Summary
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Sample Location:				B	B	B	C	C
Sample ID:		Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	WG-9970-052715-JCB-MW-B	WG-9970-052715-JCB-DUP-1	GW-9970-110315-JCB-B	WG-9970-052715-JCB-MW-C	GW-9970-110315-JCB-C
Sample Date:				5/27/2015	5/27/2015 (Duplicate)	11/3/2015	5/27/2015	11/3/2015
Parameters	**Units**							
Volatile Organic Compounds								
Carbon tetrachloride	µg/L	**5.0**	45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	**80**	350	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	**70**	620	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	**5.0**	60	1.0 U	1.0 U	1.0 U	2.0	1.8
trans-1,2-Dichloroethene	µg/L	**100**	1500	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	**5.0**	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds								
Hexachlorobenzene	µg/L	1.0	**0.2**	0.011 U	0.010 U	0.011 U	0.011 U	0.010 U
Hexachlorobutadiene	µg/L	15	**0.053**	0.011 U	0.010 U	0.011 U	0.011 U	0.010 U
Hexachlorocyclopentadiene	µg/L	**50**	-	0.011 U	0.010 U	0.011 U	0.011 U	0.010 U
Hexachloroethane	µg/L	7.3	**6.7**	0.011 U	0.010 U	0.011 U	0.011 U	0.010 U
Octachlorocyclopentene	µg/L	**50**	-	0.011 U	0.010 U	0.011 U	0.011 U	0.010 U
General Chemistry								
Chloride	µg/L	250000	**125000**	30000	32000	20000	2600	2100

Notes:

Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria
- Not applicable
U - Not detected at the associated reporting limit

Table 3.2

Analytical Results Summary
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Sample Location: / Sample ID: / Sample Date:		Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-03-01 WG-9970-052715-JCB-MW-301 5/27/2015	MW-03-01 WG-9970-052715-JCB-DUP-2 5/27/2015 (Duplicate)	MW-03-01 GW-9970-110315-JCB-301 11/3/2015	MW-05-01 WG-9970-052715-JCB-MW-501 5/27/2015	MW-05-01 GW-9970-110315-JCB-501 11/3/2015
Parameters	**Units**							
Volatile Organic Compounds								
Carbon tetrachloride	µg/L	**5.0**	45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	**80**	350	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	**70**	620	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	**5.0**	60	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	**100**	1500	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	**5.0**	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds								
Hexachlorobenzene	µg/L	1.0	**0.2**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	15	**0.053**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	**50**	-	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	7.3	**6.7**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	**50**	-	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry								
Chloride	µg/L	250000	**125000**	1200	1300	1300	2000	2600

Notes:

Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria
- Not applicable
U - Not detected at the associated reporting limit

Table 3.2

Analytical Results Summary
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Sample Location:				MW-97-02	MW-97-02	MW-97-03	MW-97-03	MW-97-04	MW-97-04
Sample ID:		Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	WG-9970-052815-JCB-MW-972	GW-9970-110315-JCB-972	WG-9970-052615-JCB-MW-973	GW-9970-110215-JCB-973	WG-9970-052615-JCB-MW-974	GW-9970-110215-JCB-974
Sample Date:				5/28/2015	11/3/2015	5/26/2015	11/2/2015	5/26/2015	11/2/2015
Parameters	**Units**								
Volatile Organic Compounds									
Carbon tetrachloride	µg/L	**5.0**	45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	**80**	350	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	**70**	620	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	**5.0**	60	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	**100**	1500	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	**5.0**	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds									
Hexachlorobenzene	µg/L	1.0	**0.2**	0.010 U	0.011 U	0.010 U	0.010 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	15	**0.053**	0.010 U	0.011 U	0.010 U	0.010 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	**50**	-	0.010 U	0.011 U	0.010 U	0.010 U	0.011 U	0.011 U
Hexachloroethane	µg/L	7.3	**6.7**	0.010 U	0.011 U	0.010 U	0.010 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	**50**	-	0.010 U	0.011 U	0.010 U	0.010 U	0.011 U	0.011 U
General Chemistry									
Chloride	µg/L	250000	**125000**	110000	120000	22000	18000	4000	3600

Notes:

Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria
- Not applicable
U - Not detected at the associated reporting limit

Table 3.2

Analytical Results Summary
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Sample Location:				MW-97-05	MW-97-05	T	T	WW-02	WW-02
Sample ID:		Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	WG-9970-052615-JCB-MW-975	GW-9970-110215-JCB-975	WG-9970-052615-JCB-MW-T	GW-9970-110315-JCB-T	WG-9970-052815-JCB-WW-2	GW-9970-110415-JCB-WW2
Sample Date:				5/26/2015	11/2/2015	5/26/2015	11/3/2015	5/28/2015	11/4/2015
Parameters	**Units**								
Volatile Organic Compounds									
Carbon tetrachloride	µg/L	**5.0**	45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	**80**	350	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	**70**	620	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	**5.0**	60	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	**100**	1500	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	**5.0**	200	1.0 U	1.0 U	3.0	2.8	1.0 U	1.0 U
Semi-volatile Organic Compounds									
Hexachlorobenzene	µg/L	1.0	**0.2**	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	15	**0.053**	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	**50**	-	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
Hexachloroethane	µg/L	7.3	**6.7**	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	**50**	-	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
General Chemistry									
Chloride	µg/L	250000	**125000**	14000	16000	9400	10000	9300	6400

Notes:

Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria
- Not applicable
U - Not detected at the associated reporting limit

Table 3.2

Analytical Results Summary
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Sample Location: / Sample ID: / Sample Date:		Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	WW-02 GW-9970-110415-JCB-DUP2 11/4/2015 (Duplicate)	WW-06 WG-9970-052715-JCB-WW-6 5/27/2015	WW-06 WG-9970-110315-JCB-WW6 11/3/2015	WW-13 WG-9970-052615-JCB-WW-13 5/26/2015	WW-13 GW-9970-110215-JCB-WW13 11/2/2015	WW-13 GW-9970-110215-JCB-DUP1 11/2/2015 (Duplicate)
Parameters	**Units**								
Volatile Organic Compounds									
Carbon tetrachloride	µg/L	**5.0**	45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	**80**	350	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	**70**	620	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	**5.0**	60	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	**100**	1500	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	**5.0**	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds									
Hexachlorobenzene	µg/L	1.0	**0.2**	0.011 U	0.011 U	0.011 U	0.010 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	15	**0.053**	0.011 U	0.011 U	0.011 U	0.010 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	**50**	-	0.011 U	0.011 U	0.011 U	0.010 U	0.010 U	0.011 U
Hexachloroethane	µg/L	7.3	**6.7**	0.011 U	0.011 U	0.011 U	0.010 U	0.010 U	0.011 U
Octachlorocyclopentene	µg/L	**50**	-	0.011 U	0.011 U	0.011 U	0.010 U	0.010 U	0.011 U
General Chemistry									
Chloride	µg/L	250000	**125000**	7800	1900	1700	4000	2700	2000

Notes:

Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria
- Not applicable
U - Not detected at the associated reporting limit

Table 3.2

Analytical Results Summary
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Sample Location:				WW-24	WW-24	Equipment Blank
Sample ID:		Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	WG-9970-052615-JCB-WW24	GW-9970-110215-JCB-WW24	WG-9970-052815-JCB-DUP-3
Sample Date:				5/26/2015	11/2/2015	5/28/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	**5.0**	45	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	**80**	350	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	**70**	620	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	**5.0**	60	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	**100**	1500	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	**5.0**	200	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	1.0	**0.2**	0.011 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	15	**0.053**	0.011 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	**50**	-	0.011 U	0.011 U	0.011 U
Hexachloroethane	µg/L	7.3	**6.7**	0.011 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	**50**	-	0.011 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	250000	**125000**	8500	9500	1000 U

Notes:

Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria
- Not applicable
U - Not detected at the associated reporting limit

Table 4.1

Pumping Rates and Treatment System Efficiency
Glenn Springs Holdings, Inc.
Montague, Michigan
January to December 2015

Purge Well	Month:	January			February			March			April			May			June		
			Pumping Rate (GPM)			Pumping Rate (GPM)			Pumping Rate (GPM)			Pumping Rate (GPM)			Pumping Rate (GPM)			Pumping Rate (GPM)	
		%Run	Actual	Effective	%Run	Actual	Effective	%Run	Actual	Effective	%Run	Actual	Effective	%Run	Actual	Effective	%Run	Actual	Effective
Pb		98.25%	70	80	97.47%	70	80	97.98%	60	80	80.28%	60	80	97.18%	75	73	98.33%	75	74
Pc		97.72%	120	130	97.47%	120	130	97.98%	120	130	97.64%	120	130	96.91%	120	116	98.19%	120	118
Pd		98.25%	125	100	92.71%	125	100	97.85%	105	100	94.17%	105	100	97.18%	120	117	97.64%	120	117
Pe		98.25%	115	130	97.47%	115	130	97.98%	115	130	97.50%	115	130	89.11%	110	98	98.33%	110	108
Pf		97.72%	10	10	97.47%	10	10	97.98%	10	10	97.64%	10	10	96.91%	10	10	98.19%	10	10
Pg		98.25%	75	80	97.47%	75	80	97.98%	75	80	97.50%	75	80	89.25%	75	67	98.19%	75	74
Ph		97.72%	130	135	97.47%	130	135	97.98%	130	135	97.64%	130	135	96.91%	135	131	98.19%	135	133
Pi		97.72%	90	90	97.17%	90	90	87.10%	60	90	93.89%	60	90	96.91%	90	87	98.19%	90	88
	Total:		**735**	**755**		**735**	**755**		**675**	**755**		**675**	**755**		**735**	**698**		**735**	**721**

Notes:

GPM - Gallons per minute

Table 4.1

Pumping Rates and Treatment System Efficiency
Glenn Springs Holdings, Inc.
Montague, Michigan
January to December 2015

Month:	July			August			September			October			November			December			Monthly Average	
Purge Well		Pumping Rate (GPM)			Pumping Rate (GPM)			Pumping Rate (GPM)			Pumping Rate (GPM)			Pumping Rate (GPM)			Pumping Rate (GPM)			Pumping Rate (GPM)	
	%Run	Actual	Effective	%Run	Actual	Effective	%Run	Actual	Effective	%Run	Actual	Effective	%Run	Actual	Effective	%Run	Actual	Effective	Actual	Effective
Pb	97.04%	65	63	97.04%	65	63	97.92%	65	64	96.24%	65	63	97.78%	65	64	98.12%	66	65	67	71
Pc	97.04%	120	116	95.56%	120	115	97.64%	120	117	96.24%	120	115	95.83%	120	115	97.45%	117	114	120	121
Pd	96.37%	115	111	97.18%	115	112	97.92%	115	113	84.27%	115	97	97.78%	115	112	98.12%	115	113	116	108
Pe	92.88%	110	102	97.18%	110	107	97.92%	110	108	92.47%	110	102	97.78%	110	108	98.12%	110	108	112	113
Pf	97.04%	10	10	97.18%	10	10	98.06%	10	10	96.24%	10	10	95.56%	10	10	96.64%	10	10	10	10
Pg	94.76%	65	62	97.04%	65	63	97.92%	65	64	96.24%	65	63	97.78%	65	64	98.12%	65	64	70	70
Ph	96.91%	130	126	97.18%	130	126	98.06%	130	127	96.24%	130	125	97.92%	130	127	97.45%	129	126	131	130
Pi	96.91%	80	78	97.18%	80	78	98.06%	80	78	92.34%	80	74	98.06%	80	78	98.12%	80	78	80	83
Total:		**695**	**667**		**695**	**673**		**695**	**680**		**695**	**649**		**695**	**678**		**695**	**678**	**705**	**706**

Notes:

GPM - Gallons per minute

Table 4.2

Analytical Results Summary - Purge Wells
Glenn Springs Holdings, Inc.
Montague, Michigan

Parameters	Units	Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location: Pb Sample ID: WG-9970-BFB-012915-PB Sample Date: 1/29/2015	Pb WG-9970-BFB-042915-PB 4/29/2015	Pb WG-9970-BFB-072815-PB 07/28/2015	Pb WG-9970-BFB-103015-PB 10/30/2015	Pc WG-9970-BFB-012915-PC 1/29/2015	Pc WG-9970-BFB-042915-PC 4/29/2015	Pc WG-9970-BFB-072815-PC 07/28/2015
Volatile Organic Compounds										
Carbon tetrachloride	µg/L	**5.0**	45	**73**	**47**	**40**	**41**	**7.8**	**11**	**8.7**
Chloroform (Trichloromethane)	µg/L	**80**	350	33	29	25	24	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	**70**	620	12	12	11	11	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	**5.0**	60	**1200**	**850**	**1000**	**1000**	**46**	**61**	**62**
trans-1,2-Dichloroethene	µg/L	**100**	1500	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	**5.0**	200	**18**	**13**	**11**	**13**	2.2	2.0	1.6
Semi-volatile Organic Compounds										
Hexachlorobenzene	µg/L	1.0	**0.2**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	15	**0.053**	0.040	0.040 U	0.040 U	0.040 U	**2.0**	**1.9**	**2.1**
Hexachlorocyclopentadiene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	7.3	**6.7**	**48**	**42**	**50**	**53**	4.6	4.1	4.6
Octachlorocyclopentene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry										
Chloride	µg/L	250000	**125000**	14000	13000	12000	12000	11000	12000	14000

Notes:

NA - Not Applicable
U - Not detected at the associated reporting limit
Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria

Table 4.2

Analytical Results Summary - Purge Wells
Glenn Springs Holdings, Inc.
Montague, Michigan

Parameters	Units	Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location: Pc Sample ID: WG-9970-BFB-103015-PC Sample Date: 10/30/2015	Pd WG-9970-BFB-012915-PD 1/29/2015	Pd WG-9970-BFB-042915-PD 4/29/2015	Pd WG-9970-BFB-072815-PD 07/28/2015	Pd WG-9970-BFB-103015-PD 10/30/2015	Pe WG-9970-BFB-012915-PE 1/29/2015	Pe WG-9970-BFB-042915-PE 4/29/2015
Volatile Organic Compounds										
Carbon tetrachloride	µg/L	**5.0**	45	**6.6**	**130**	**130**	**120**	**100**	**6.8**	**4.8**
Chloroform (Trichloromethane)	µg/L	**80**	350	1.0 U	27	31	27	24	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	**70**	620	1.0 U	10 U	10 U	10 U	10 U	3.0	3.0
Tetrachloroethene	µg/L	**5.0**	60	**53**	**1300**	**1400**	**1300**	**1200**	**100**	**86**
trans-1,2-Dichloroethene	µg/L	**100**	1500	1.0 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U
Trichloroethene	µg/L	**5.0**	200	1.5	**20**	**17**	**14**	**16**	3.4	3.0
Semi-volatile Organic Compounds										
Hexachlorobenzene	µg/L	1.0	**0.2**	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	15	**0.053**	**2.0**	0.010 U	0.010 U	0.010 U	**0.11**	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U
Hexachloroethane	µg/L	7.3	**6.7**	5.1	**47**	**46**	**45**	**49**	1.1	1.1
Octachlorocyclopentene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U
General Chemistry										
Chloride	µg/L	250000	**125000**	14000	**190000**	**190000**	**180000**	**190000**	100000	110000

Notes:

NA - Not Applicable
U - Not detected at the associated reporting limit
Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria

Table 4.2

Analytical Results Summary - Purge Wells
Glenn Springs Holdings, Inc.
Montague, Michigan

Parameters	Units	Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location: Sample ID: Sample Date: Pe WG-9970-BFB-072815-PE 07/28/2015	Pe WG-9970-BFB-103015-PE 10/30/2015	Pf WG-9970-BFB-012915-PF 1/29/2015	Pf WG-9970-BFB-042915-PF 4/29/2015	Pf WG-9970-BFB-072815-PF 07/28/2015	Pf WG-9970-BFB-103015-PF 10/30/2015	Pg WG-9970-BFB-012915-PG 1/29/2015
Volatile Organic Compounds										
Carbon tetrachloride	µg/L	**5.0**	45	4.3	**5.4**	1.0 U	1.0 U	1.0 U	1.0 U	**1200**
Chloroform (Trichloromethane)	µg/L	**80**	350	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**140**
cis-1,2-Dichloroethene	µg/L	**70**	620	2.5	3.0	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Tetrachloroethene	µg/L	**5.0**	60	**84**	**94**	1.5	2.2	**6.1**	**15**	**7500**
trans-1,2-Dichloroethene	µg/L	**100**	1500	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U
Trichloroethene	µg/L	**5.0**	200	2.6	3.5	1.0 U	1.0 U	1.0 U	1.0 U	**58**
Semi-volatile Organic Compounds										
Hexachlorobenzene	µg/L	1.0	**0.2**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	15	**0.053**	0.010 U	0.010 U	0.010 U	0.010 U	0.11	0.13	**1.6**
Hexachlorocyclopentadiene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	7.3	**6.7**	1.2	1.6	0.11	0.14	0.46	0.31	**340**
Octachlorocyclopentene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry										
Chloride	µg/L	250000	**125000**	95000	110000	2300	2300	2400	3700	25000

Notes:

NA - Not Applicable
U - Not detected at the associated reporting limit
Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria

Table 4.2

Analytical Results Summary - Purge Wells
Glenn Springs Holdings, Inc.
Montague, Michigan

Parameters	Units	Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location: Pg Sample ID: WG-9970-BFB-042915-PG Sample Date: 4/29/2015	Pg WG-9970-BFB-072815-PG 07/28/2015	Pg WG-9970-BFB-103015-PG 10/30/2015	Ph WG-9970-BFB-012915-PH 1/29/2015	Ph WG-9970-BFB-042915-PH 4/29/2015	Ph WG-9970-BFB-072815-PH 07/28/2015	Ph WG-9970-BFB-103015-PH 10/30/2015
Volatile Organic Compounds										
Carbon tetrachloride	µg/L	**5.0**	45	**1200**	**1300**	**1400**	**31**	**23**	**23**	**28**
Chloroform (Trichloromethane)	µg/L	**80**	350	**140**	**120**	**130**	11	9.9	9.4	10
cis-1,2-Dichloroethene	µg/L	**70**	620	50 U	50 U	50 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	**5.0**	60	**7300**	**6900**	**6800**	**400**	**370**	**370**	**400**
trans-1,2-Dichloroethene	µg/L	**100**	1500	50 U	50 U	50 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	**5.0**	200	**50 U**	**50 U**	**50 U**	**11**	**9.2**	**6.7**	**8.7**
Semi-volatile Organic Compounds										
Hexachlorobenzene	µg/L	1.0	**0.2**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	15	**0.053**	**1.8**	**2.4**	**3.1**	**3.4**	**3.1**	**3.3**	**3.6**
Hexachlorocyclopentadiene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	7.3	**6.7**	**330**	**350**	**390**	**20**	**18**	**19**	**20**
Octachlorocyclopentene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry										
Chloride	µg/L	250000	**125000**	28000	24000	24000	100000	110000	91000	97000

Notes:

NA - Not Applicable
U - Not detected at the associated reporting limit
Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria

Table 4.2

Analytical Results Summary - Purge Wells
Glenn Springs Holdings, Inc.
Montague, Michigan

Parameters	Units	Residential and Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location: Pi Sample ID: WG-9970-BFB-012915-PI Sample Date: 1/29/2015	Pi WG-9970-BFB-042915-PI 4/29/2015	Pi WG-9970-BFB-072815-PI 07/28/2015	Pi WG-9970-BFB-103015-PI 10/30/2015
Volatile Organic Compounds							
Carbon tetrachloride	µg/L	**5.0**	45	**110**	**80**	**92**	**92**
Chloroform (Trichloromethane)	µg/L	**80**	350	**68**	**70**	63	65
cis-1,2-Dichloroethene	µg/L	**70**	620	43	52	41	46
Tetrachloroethene	µg/L	**5.0**	60	**1700**	**1500**	**1700**	**1700**
trans-1,2-Dichloroethene	µg/L	**100**	1500	20 U	20 U	10 U	20 U
Trichloroethene	µg/L	**5.0**	200	**47**	**37**	**34**	**40**
Semi-volatile Organic Compounds							
Hexachlorobenzene	µg/L	1.0	**0.2**	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	15	**0.053**	**8.5**	**6.5**	**9.4**	**9.2**
Hexachlorocyclopentadiene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	7.3	**6.7**	**26**	**21**	**26**	**27**
Octachlorocyclopentene	µg/L	**50**	NA	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry							
Chloride	µg/L	250000	**125000**	**470000**	**540000**	**450000**	**460000**

Notes:

NA - Not Applicable
U - Not detected at the associated reporting limit
Bold numbers indicate the more stringent criteria derived from State of Michigan Part 201 generic cleanup criteria

Table 4.3

Total VOCs and SVOCs Removed in 2015
Glenn Springs Holdings, Inc.
Montague, Michigan

			Mass Removed by Purge Well (pounds)							
Quarter	**Days**	**Total Removed (pounds)**	**Pb**	**Pc**	**Pd**	**Pe**	**Pf**	**Pg**	**Ph**	**Pi**
First	90	1343	105	8	206	14	0.017	748	67	195
Second	91	1186	65	10	186	12	0.026	735	61	116
Third	92	1153	82	10	191	11	0.074	622	62	174
Fourth	92	1149	82	9	176	13	0.170	626	67	175
	Total:	**4830**	**333**	**38**	**760**	**51**	**0.287**	**2731**	**258**	**659**

Notes:

SVOC - Semi-Volatile Organic Compounds
VOC - Volatile Organic Compounds

Appendices

Appendix A
Performance Monitoring Water Levels

Table A.1

Water Level Depths and Elevations
Groundwater Collection Demonstration - 2015
Glenn Springs Holdings, Inc.
Montague, Michigan

Date	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		White Lake (observed)		White Lake (average)
	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Elevation (ft. AMSL)
01/02/15	8.01	579.64	10.20	579.58	51.26	579.64	51.83	579.38	50.08	579.71	50.42	579.68	6.61	579.86	579.80
01/07/15	8.18	579.47	10.31	579.47	51.37	579.53	51.90	579.31	50.25	579.54	50.57	579.53	6.77	579.70	579.99
01/09/15	8.01	579.64	10.20	579.58	51.26	579.64	51.83	579.38	50.08	579.71	50.42	579.68	6.58	579.89	579.85
01/13/15	7.94	579.71	10.12	579.66	51.11	579.79	51.70	579.51	49.98	579.81	50.34	579.76	6.44	580.03	580.11
01/15/15	7.90	579.75	10.09	579.69	51.12	579.78	51.71	579.50	49.96	579.83	50.34	579.76	6.45	580.02	580.07
01/19/15	7.93	579.72	10.11	579.67	51.13	579.77	51.69	579.52	49.98	579.81	50.33	579.77	6.42	580.05	580.11
01/21/15	7.88	579.77	10.11	579.67	51.06	579.84	51.69	579.52	49.89	579.90	50.26	579.84	6.33	580.14	580.15
01/22/15	7.87	579.78	10.06	579.72	51.08	579.82	51.60	579.61	49.90	579.89	50.29	579.81	6.35	580.12	580.02
01/27/15	7.85	579.80	10.10	579.68	51.07	579.83	51.63	579.58	49.90	579.89	50.12	579.98	6.34	580.13	580.07
01/28/15	7.87	579.78	10.05	579.73	51.09	579.81	51.62	579.59	49.91	579.88	50.32	579.78	6.49	579.98	580.07
01/29/15	7.81	579.84	10.00	579.78	51.01	579.89	51.53	579.68	49.86	579.93	50.24	579.86	6.14	580.33	580.06
02/04/15	7.89	579.76	10.07	579.71	51.11	579.79	51.62	579.59	49.92	579.87	50.32	579.78	6.46	580.01	580.09
02/06/15	8.02	579.63	10.20	579.58	51.26	579.64	51.77	579.44	50.08	579.71	50.43	579.67	6.66	579.81	579.96
02/09/15	7.77	579.88	9.95	579.83	50.93	579.97	51.47	579.74	49.75	580.04	50.06	580.04	6.25	580.22	580.33
02/10/15	7.85	579.80	10.01	579.77	51.02	579.88	51.53	579.68	49.85	579.94	50.18	579.92	6.43	580.04	580.17
02/11/15	7.82	579.83	9.98	579.80	50.95	579.95	51.47	579.74	49.80	579.99	50.18	579.92	6.28	580.19	580.18
02/18/15	7.88	579.77	10.04	579.74	51.02	579.88	51.55	579.66	49.88	579.91	50.29	579.81	6.39	580.08	580.15
02/20/15	7.94	579.71	10.09	579.69	51.10	579.80	51.65	579.56	49.94	579.85	50.35	579.75	6.54	579.93	580.00
02/24/15	8.02	579.63	10.18	579.60	51.20	579.70	51.77	579.44	50.05	579.74	50.43	579.67	6.62	579.85	579.87
02/26/15	8.04	579.61	10.19	579.59	51.11	579.79	51.68	579.53	50.00	579.79	50.39	579.71	6.54	579.93	579.88
03/02/15	7.93	579.72	10.07	579.71	51.08	579.82	51.63	579.58	49.92	579.87	50.33	579.77	6.48	579.99	580.00
03/07/15	7.96	579.69	10.12	579.66	51.11	579.79	51.65	579.56	49.97	579.82	50.38	579.72	6.48	579.99	579.92
03/12/15	7.97	579.68	10.09	579.69	51.09	579.81	51.47	579.74	49.98	579.81	50.40	579.70	6.57	579.90	579.92
03/13/15	8.01	579.64	10.20	579.58	51.12	579.78	51.50	579.71	50.04	579.75	50.43	579.67	6.44	580.03	579.98
03/16/15	7.84	579.81	9.98	579.80	50.99	579.91	51.53	579.68	49.87	579.92	50.33	579.77	6.45	580.02	579.94
03/20/15	7.82	579.83	9.95	579.83	50.98	579.92	51.53	579.68	49.87	579.92	50.31	579.79	6.43	580.04	580.07
03/25/15	7.91	579.74	10.12	579.66	51.12	579.78	51.62	579.59	49.90	579.89	50.30	579.80	6.36	580.11	580.06
03/27/15	8.01	579.64	10.21	579.57	51.21	579.69	51.69	579.52	50.00	579.79	50.43	579.67	6.50	579.97	579.98
03/31/15	8.03	579.62	10.24	579.54	51.21	579.69	51.67	579.54	50.00	579.79	50.42	579.68	6.47	580.00	579.92
04/01/15	8.01	579.64	10.23	579.55	51.18	579.72	51.64	579.57	49.96	579.83	50.37	579.73	6.42	580.05	579.90
04/06/15	7.95	579.70	10.16	579.62	51.10	579.80	51.26	579.95	49.78	580.01	50.20	579.90	6.35	580.12	580.09
04/15/15	7.72	579.93	9.95	579.83	50.96	579.94	51.61	579.60	49.73	580.06	50.02	580.08	6.24	580.23	580.31
04/17/15	7.72	579.93	9.95	579.83	50.96	579.94	51.61	579.60	49.73	580.06	50.08	580.02	6.31	580.16	580.32
04/21/15	7.55	580.10	9.79	579.99	50.82	580.08	51.49	579.72	49.60	580.19	49.96	580.14	6.25	580.22	580.44
04/22/15	7.65	580.00	9.81	579.97	50.84	580.06	51.53	579.68	49.86	579.93	50.12	579.98	6.28	580.19	580.28
04/25/15	7.91	579.74	10.12	579.66	51.12	579.78	51.62	579.59	49.90	579.89	50.30	579.80	6.36	580.11	580.38
05/01/15	7.65	580.00	9.80	579.98	50.82	580.08	51.62	579.59	49.85	579.94	50.14	579.96	6.20	580.27	579.93
05/02/15	7.64	580.01	9.79	579.99	50.82	580.08	51.60	579.61	49.65	580.14	49.98	580.12	6.20	580.27	579.95
05/05/15	7.53	580.12	9.82	579.96	50.84	580.06	51.64	579.57	49.67	580.12	49.99	580.11	6.20	580.27	580.15
05/08/15	7.57	580.08	9.85	579.93	50.88	580.02	51.65	579.56	49.70	580.09	50.02	580.08	6.22	580.25	580.26
05/11/15	7.44	580.21	9.64	580.14	50.69	580.21	51.45	579.76	49.50	580.29	49.78	580.32	6.07	580.40	580.41

Table A.1

Water Level Depths and Elevations
Groundwater Collection Demonstration - 2015
Glenn Springs Holdings, Inc.
Montague, Michigan

Date	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		White Lake (observed)		White Lake (average)
	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Elevation (ft. AMSL)
05/15/15	7.37	580.28	9.67	580.11	50.65	580.25	51.41	579.80	49.49	580.30	49.79	580.31	5.96	580.51	580.39
05/21/15	7.55	580.10	10.03	579.75	50.82	580.08	51.58	579.63	49.63	580.16	49.94	580.16	6.16	580.31	580.17
05/22/15	7.54	580.11	9.85	579.93	50.82	580.08	51.60	579.61	49.63	580.16	49.94	580.16	6.17	580.30	580.18
05/26/15	7.39	580.26	9.76	580.02	50.67	580.23	51.42	579.79	49.49	580.30	49.80	580.30	6.05	580.42	580.38
05/28/15	7.42	580.23	9.69	580.09	50.67	580.23	51.40	579.81	49.48	580.31	49.79	580.31	6.06	580.41	580.38
06/04/15	7.22	580.43	9.52	580.26	50.55	580.35	51.25	579.96	49.38	580.41	49.64	580.46	5.85	580.62	580.58
06/05/15	7.22	580.43	9.52	580.26	50.57	580.33	51.27	579.94	49.40	580.39	49.66	580.44	5.89	580.58	580.59
06/09/15	7.28	580.37	9.51	580.27	50.55	580.35	51.28	579.93	49.41	580.38	49.69	580.41	5.95	580.52	580.60
06/11/15	7.29	580.36	9.52	580.26	50.57	580.33	51.28	579.93	49.42	580.37	49.70	580.40	5.95	580.52	580.68
06/17/15	7.10	580.55	9.35	580.43	50.35	580.55	51.09	580.12	49.25	580.54	49.53	580.57	5.63	580.84	580.84
06/19/15	7.12	580.53	9.37	580.41	50.33	580.57	51.09	580.12	49.23	580.56	49.51	580.59	5.67	580.80	580.88
06/22/15	7.07	580.58	9.33	580.45	50.32	580.58	51.04	580.17	49.20	580.59	49.48	580.62	5.60	580.87	580.96
06/26/15	7.00	580.65	9.20	580.58	50.19	580.71	51.11	580.10	49.16	580.63	49.50	580.60	5.55	580.92	581.05
07/01/15	7.01	580.64	9.21	580.57	50.20	580.70	51.10	580.11	49.15	580.64	49.49	580.61	5.55	580.92	580.88
07/02/15	7.12	580.53	9.35	580.43	50.34	580.56	51.07	580.14	49.24	580.55	49.52	580.58	5.70	580.77	580.87
07/06/15	7.13	580.52	9.35	580.43	50.35	580.55	51.13	580.08	49.27	580.52	49.57	580.53	5.72	580.75	580.94
07/10/15	7.13	580.52	9.35	580.43	50.38	580.52	51.06	580.15	49.23	580.56	49.49	580.61	5.71	580.76	580.90
07/13/15	7.06	580.59	9.29	580.49	50.33	580.57	51.02	580.19	49.20	580.59	49.50	580.60	5.67	580.80	580.97
07/14/15	7.00	580.65	9.21	580.57	50.22	580.68	50.94	580.27	49.15	580.64	49.43	580.67	5.52	580.95	581.06
07/23/15	7.09	580.56	9.30	580.48	50.31	580.59	51.15	580.06	49.25	580.54	49.60	580.50	5.65	580.82	580.86
07/28/15	7.04	580.61	9.24	580.54	50.29	580.61	51.03	580.18	49.22	580.57	49.52	580.58	5.66	580.81	580.94
07/29/15	7.10	580.55	9.30	580.48	50.34	580.56	51.12	580.09	49.30	580.49	49.60	580.50	5.67	580.80	580.95
08/04/15	7.11	580.54	9.30	580.48	50.31	580.59	50.73	580.48	49.29	580.50	49.60	580.50	5.66	580.81	580.88
08/07/15	7.14	580.51	9.34	580.44	50.30	580.60	50.65	580.56	49.25	580.54	49.50	580.60	5.57	580.90	580.89
08/10/15	7.13	580.52	9.34	580.44	50.26	580.64	51.03	580.18	49.24	580.55	49.60	580.50	5.61	580.86	580.86
08/13/15	7.11	580.54	9.30	580.48	50.31	580.59	51.02	580.19	49.29	580.50	49.60	580.50	5.68	580.79	580.59
08/17/15	7.13	580.52	9.31	580.47	50.26	580.64	51.03	580.18	49.26	580.53	49.60	580.50	5.73	580.74	580.76
08/18/15	6.99	580.66	9.20	580.58	50.24	580.66	50.94	580.27	49.17	580.62	49.48	580.62	5.56	580.91	580.86
08/26/15	7.24	580.41	9.40	580.38	50.47	580.43	51.13	580.08	49.35	580.44	49.66	580.44	5.98	580.49	580.48
08/27/15	7.22	580.43	9.39	580.39	50.46	580.44	51.12	580.09	49.35	580.44	49.67	580.43	5.88	580.59	580.53
08/28/15	7.19	580.46	9.36	580.42	50.40	580.50	51.07	580.14	49.29	580.50	49.62	580.48	5.84	580.63	580.58
08/31/15	7.30	580.35	9.45	580.33	50.52	580.38	51.15	580.06	49.40	580.39	49.70	580.40	5.95	580.52	580.58
09/02/15	7.17	580.48	9.36	580.42	50.48	580.42	51.06	580.15	49.34	580.45	49.64	580.46	5.81	580.66	580.55
09/08/15	7.11	580.54	9.30	580.48	50.35	580.55	51.03	580.18	49.27	580.52	49.59	580.51	5.76	580.71	580.72
09/11/15	7.17	580.48	9.26	580.52	50.37	580.53	50.93	580.28	49.23	580.56	49.53	580.57	5.74	580.73	580.64
09/19/15	7.24	580.41	9.42	580.36	50.48	580.42	51.16	580.05	49.38	580.41	49.70	580.40	5.87	580.60	580.53
09/20/15	7.30	580.35	9.48	580.30	50.59	580.31	51.21	580.00	49.43	580.36	49.75	580.35	5.97	580.50	580.43
09/21/15	7.27	580.38	9.46	580.32	50.59	580.31	51.21	580.00	49.42	580.37	49.75	580.35	5.92	580.55	580.42
09/24/15	7.29	580.36	9.42	580.36	50.48	580.42	51.17	580.04	49.38	580.41	49.68	580.42	5.73	580.74	580.61
09/29/15	7.20	580.45	9.40	580.38	50.45	580.45	51.15	580.06	49.36	580.43	49.69	580.41	5.86	580.61	580.51
09/30/15	7.25	580.40	9.43	580.35	50.47	580.43	51.14	580.07	49.39	580.40	49.70	580.40	5.74	580.73	580.53

Table A.1

Water Level Depths and Elevations
Groundwater Collection Demonstration - 2015
Glenn Springs Holdings, Inc.
Montague, Michigan

Date	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		White Lake (observed)		White Lake (average)
	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Depth (feet)	Elevation (ft. AMSL)	Elevation (ft. AMSL)
10/07/15	7.45	580.20	9.61	580.17	50.70	580.20	51.42	579.79	49.68	580.11	49.95	580.15	6.07	580.40	580.34
10/09/15	7.45	580.20	9.60	580.18	50.68	580.22	51.42	579.79	49.65	580.14	49.95	580.15	5.92	580.55	580.39
10/12/15	7.71	579.94	9.85	579.93	50.98	579.92	51.60	579.61	49.89	579.90	50.17	579.93	6.20	580.27	580.06
10/13/15	7.52	580.13	9.70	580.08	50.85	580.05	51.58	579.63	49.79	580.00	50.08	580.02	6.14	580.33	580.19
10/15/15	7.70	579.95	9.82	579.96	50.98	579.92	51.70	579.51	49.99	579.80	50.19	579.91	6.30	580.17	580.08
10/16/15	7.69	579.96	9.74	580.04	50.90	580.00	51.60	579.61	49.79	580.00	50.09	580.01	6.21	580.26	580.09
10/21/15	7.51	580.14	9.60	580.18	50.68	580.22	51.42	579.79	49.65	580.14	49.95	580.15	6.05	580.42	580.26
10/28/15	7.45	580.20	9.60	580.18	50.68	580.22	51.42	579.79	49.65	580.14	49.95	580.15	5.75	580.72	580.49
11/02/15	7.68	579.97	9.83	579.95	50.88	580.02	51.45	579.76	49.72	580.07	50.12	579.98	6.44	580.03	580.16
11/03/15	7.56	580.09	9.72	580.06	50.77	580.13	51.45	579.76	49.67	580.12	50.00	580.10	6.27	580.20	580.24
11/04/15	7.60	580.05	9.76	580.02	50.80	580.10	51.49	579.72	49.70	580.09	50.03	580.07	6.30	580.17	580.24
11/06/15	7.63	580.02	9.82	579.96	50.87	580.03	51.57	579.64	49.76	580.03	50.10	580.00	6.28	580.19	580.16
11/07/15	7.73	579.92	9.91	579.87	50.96	579.94	51.66	579.55	49.84	579.95	50.18	579.92	6.43	580.04	580.08
11/10/15	7.72	579.93	9.91	579.87	50.96	579.94	51.65	579.56	49.86	579.93	50.18	579.92	6.25	580.22	580.04
11/12/15	7.55	580.10	9.76	580.02	50.79	580.11	51.44	579.77	49.72	580.07	49.97	580.13	5.58	580.89	580.38
11/17/15	7.60	580.05	9.82	579.96	50.83	580.07	51.54	579.67	49.69	580.10	49.96	580.14	6.08	580.39	580.25
12/05/15	7.81	579.84	9.98	579.80	51.05	579.85	51.73	579.48	49.90	579.89	50.22	579.88	6.48	579.99	579.96
12/07/15	7.81	579.84	10.03	579.75	51.81	579.09	51.70	579.51	49.99	579.80	50.28	579.82	6.43	580.04	580.05
12/12/15	7.89	579.76	10.10	579.68	51.10	579.80	51.86	579.35	50.05	579.74	50.35	579.75	6.43	580.04	580.00
12/15/15	7.64	580.01	9.88	579.90	50.94	579.96	51.68	579.53	49.84	579.95	50.15	579.95	6.23	580.24	580.37
12/16/15	7.63	580.02	9.86	579.92	50.92	579.98	51.68	579.53	49.82	579.97	50.13	579.97	6.20	580.27	580.41
12/22/15	7.62	580.03	9.83	579.95	50.89	580.01	51.63	579.58	49.77	580.02	50.07	580.03	6.17	580.30	580.24
12/28/15	7.66	579.99	9.88	579.90	50.90	580.00	51.66	579.55	49.84	579.95	50.14	579.96	6.31	580.16	580.26
12/29/15	7.39	580.26	9.62	580.16	50.58	580.32	51.32	579.89	49.59	580.20	49.80	580.30	5.30	581.17	580.58

Notes:

ft. AMSL - Feet Above Mean Sea Level

Appendix B
Field Stabilization Parameters

Table B.1

2015 Field Stabilization Parameter
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Well ID	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)*	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	pH (s.u.)	ORP (millivolts)	Sample ID
B	05/27/2015	935	10.06	0.244	3.18	7.36	-369	
B	05/27/2015	940	10.21	0.247	2.43	7.5	-370	
B	05/27/2015	945	10.28	0.247	2.37	7.61	-370	
B	05/27/2015	950	10.25	0.246	2.24	7.66	-371	
B	05/27/2015	955	10.27	0.244	1.95	7.72	-372	
B	05/27/2015	1000	10.23	0.244	2.12	7.67	-372	GW-9970-052715-JCB-B
B	11/03/2015	1020	10.96	0.215	0.02	5.83	-59	
B	11/03/2015	1025	10.91	0.218	0.02	6.29	-62	
B	11/03/2015	1030	10.9	0.222	0.01	6.61	-64.0	
B	11/03/2015	1035	10.9	0.223	0.01	6.84	-65	
B	11/03/2015	1040	10.83	0.221	0.01	7.06	-66	
B	11/03/2015	1045	10.81	0.22	0.01	7.12	-67	
B	11/03/2015	1050	10.84	0.219	0.01	7.2	-67.0	GW-9970-110315-JCB-B
C	05/27/2015	1050	10.25	0.168	4.42	7.06	-356	
C	05/27/2015	1055	10.02	0.163	2.47	6.74	-349.0	
C	05/27/2015	1100	9.83	0.162	1.83	6.76	-361	
C	05/27/2015	1105	9.83	0.162	1.84	6.87	-350	
C	05/27/2015	1110	9.81	0.162	1.81	7	-348	
C	05/27/2015	1115	9.82	0.162	1.6	7.06	-361	
C	05/27/2015	1120	9.89	0.163	1.61	7.17	-366	GW-9970-052715-JCB-C
C	11/03/2015	1200	11.76	0.204	5.01	7.8	-70.0	
C	11/03/2015	1205	11.11	0.197	1.56	6.18	-61	
C	11/03/2015	1210	10.89	0.179	1.45	6.2	-63	
C	11/03/2015	1220	10.82	0.173	1.39	6.4	-64	
C	11/03/2015	1225	11.16	0.172	1.38	6.64	-66	
C	11/03/2015	1230	11.26	0.171	1.33	6.83	-67	GW-9970-110315-JCB-C
MW-03-01	05/27/2015	1340	9.13	0.251	9.39	6.44	-179	
MW-03-01	05/27/2015	1345	9.09	0.25	9.2	6.61	-172	
MW-03-01	05/27/2015	1350	9.09	0.25	9.13	6.75	-161	
MW-03-01	05/27/2015	1355	9.11	0.25	9.22	6.88	-149	
MW-03-01	05/27/2015	1400	9.13	0.25	9.02	6.99	-148	
MW-03-01	05/27/2015	1405	9.11	0.25	9.23	7.07	-155	
MW-03-01	05/27/2015	1410	9.1	0.249	9.12	7.12	-158	
MW-03-01	05/27/2015	1415	9.09	0.249	9.22	7.16	-160	GW-9970-052715-JCB-301
MW-03-01	11/03/2015	1425	10.85	0.263	13.98	7.61	-60	
MW-03-01	11/03/2015	1430	9.55	0.249	12.15	5.8	-41	
MW-03-01	11/03/2015	1435	9.43	0.246	12.14	6.02	-39	
MW-03-01	11/03/2015	1440	9.43	0.245	12.09	6.33	-42	
MW-03-01	11/03/2015	1445	9.35	0.244	12.2	6.54	-44	
MW-03-01	11/03/2015	1450	9.43	0.245	12.2	6.7	-45	GW-9970-110315-JCB-301
MW-05-01	05/27/2015	1455	8.95	0.256	10.74	7.31	-212	
MW-05-01	05/27/2015	1500	8.9	0.266	9.83	6.88	-218	
MW-05-01	05/27/2015	1505	8.92	0.27	9.88	7.08	-212	
MW-05-01	05/27/2015	1510	9	0.271	9.87	7.22	-204	
MW-05-01	05/27/2015	1515	9	0.271	10.2	7.25	-200	
MW-05-01	05/27/2015	1520	9.02	0.272	9.89	7.29	-202	GW-9970-052715-JCB-501
MW-05-01	11/03/2015	1520	9.93	0.28	13.43	7.14	-55.0	
MW-05-01	11/03/2015	1525	9.5	0.277	14.14	6.63	-50	
MW-05-01	11/03/2015	1530	9.42	0.277	14.09	6.7	-49	
MW-05-01	11/03/2015	1535	9.4	0.276	14.23	6.81	-49.0	
MW-05-01	11/03/2015	1540	9.33	0.276	14.18	6.9	-49	GW-9970-110315-JCB-501

2015 Field Stabilization Parameter
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Well ID	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)*	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	pH (s.u.)	ORP (millivolts)	Sample ID
MW-97-02	05/28/2015	850	10.91	0.532	10.96	7.66	-307	
MW-97-02	05/28/2015	855	10.42	0.569	14.04	6.41	-326	
MW-97-02	05/28/2015	900	10.45	0.588	13.83	6.37	-216	
MW-97-02	05/28/2015	905	10.4	0.594	13.56	6.53	-207	
MW-97-02	05/28/2015	910	10.39	0.597	13.44	6.68	-194	
MW-97-02	05/28/2015	915	10.41	0.598	13.2	6.79	-201	
MW-97-02	05/28/2015	920	10.57	0.6	13.01	6.9	-215	
MW-97-02	05/28/2015	925	10.54	0.599	12.79	6.99	-202.0	
MW-97-02	05/28/2015	930	10.69	0.6	12.63	7.01	-199	GW-9970-052815-JCB-972
MW-97-02	11/03/2015	1620	10.15	0.582	12.08	6.92	-52	
MW-97-02	11/03/2015	1625	9.95	0.596	12.25	6.85	-47	
MW-97-02	11/03/2015	1630	9.87	0.604	12.22	6.93	-45	
MW-97-02	11/03/2015	1635	9.78	0.613	12.34	7.02	-44	
MW-97-02	11/03/2015	1640	9.75	0.612	12	7	-43	GW-9970-110315-JCB-972
MW-97-03	05/26/2015	1125	9.49	0.32	7.47	6.65	170	
MW-97-03	05/26/2015	1130	9.43	0.316	6.59	6.66	190	
MW-97-03	05/26/2015	1135	9.43	0.315	6.87	6.8	191	
MW-97-03	05/26/2015	1140	9.43	0.314	7.79	6.92	145.0	
MW-97-03	05/26/2015	1145	9.43	0.314	7.49	6.79	202	
MW-97-03	05/26/2015	1150	9.45	0.315	7.34	6.91	179	
MW-97-03	05/26/2015	1155	9.48	0.314	7.29	6.98	205.0	
MW-97-03	05/26/2015	1200	9.5	0.315	7.25	7.07	209	GW-9970-052615-JCB-973
MW-97-03	11/02/2015	1205	10.27	0.322	5.02	6.05	-28	
MW-97-03	11/02/2015	1210	10.15	0.314	4.95	6.26	-27	
MW-97-03	11/02/2015	1215	10.18	0.314	4.89	6.49	-28	
MW-97-03	11/02/2015	1220	10.09	0.314	4.92	6.62	-27	
MW-97-03	11/02/2015	1225	10.02	0.313	4.92	6.69	-26	
MW-97-03	11/02/2015	1230	10.01	0.313	4.9	6.75	-24.0	GW-9970-110215-JCB-973
MW-97-04	05/26/2015	1225	10.06	0.159	11.85	6.77	177	
MW-97-04	05/26/2015	1230	9.62	0.17	6.79	5.93	170	
MW-97-04	05/26/2015	1235	9.57	0.19	4.33	6.42	172	
MW-97-04	05/26/2015	1240	9.66	0.198	3.88	6.72	175	
MW-97-04	05/26/2015	1245	9.94	0.202	2.93	7.07	179	
MW-97-04	05/26/2015	1250	10.09	0.204	2.9	7.22	187	
MW-97-04	05/26/2015	1255	10.17	0.206	2.7	7.34	191	
MW-97-04	05/26/2015	1300	10.02	0.205	2.52	7.31	192.0	GW-9970-052615-JCB-974
MW-97-04	11/02/2015	1255	10.32	0.16	2.66	5.26	-19.0	
MW-97-04	11/02/2015	1300	9.92	0.18	1.71	5.56	-22	
MW-97-04	11/02/2015	1305	9.74	0.2	1.48	5.96	-24	
MW-97-04	11/02/2015	1310	9.56	0.203	1.27	6.13	-26.0	
MW-97-04	11/02/2015	1315	9.5	0.205	1.19	6.31	-24	
MW-97-04	11/02/2015	1320	9.51	0.205	1.15	6.45	-21	
MW-97-04	11/02/2015	1325	9.56	0.206	1.10	6.58	-19	GW-9970-110215-JCB-974
MW-97-05	05/26/2015	1335	10.43	0.23	7.04	6.22	140	
MW-97-05	05/26/2015	1340	10.15	0.228	4.13	6.43	140	
MW-97-05	05/26/2015	1345	10.02	0.228	3.69	6.65	140	
MW-97-05	05/26/2015	1350	9.97	0.229	3.48	6.88	140	
MW-97-05	05/26/2015	1355	9.95	0.228	3.1	6.98	141	GW-9970-052615--JCB-975
MW-97-05	11/02/2015	1355	12.06	0.266	4.9	7.81	-53	
MW-97-05	11/02/2015	1400	10.72	0.255	1.41	6.35	-38	
MW-97-05	11/02/2015	1405	10.59	0.252	1.28	6.42	-35.0	
MW-97-05	11/02/2015	1410	10.56	0.252	1.19	6.8	-31.0	
MW-97-05	11/02/2015	1415	10.56	0.252	1.14	7.02	-26	
MW-97-05	11/02/2015	1420	10.46	0.252	1.10	7	-20	GW-9970-110215--JCB-975

2015 Field Stabilization Parameter
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Well ID	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)*	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	pH (s.u.)	ORP (millivolts)	Sample ID
T	05/26/2015	1625	11	0.212	5.45	7.48	179	
T	05/26/2015	1630	10.91	0.213	3.76	7.33	180	
T	05/26/2015	1635	10.44	0.212	5.32	7.39	179	
T	05/26/2015	1640	10.6	0.213	2.86	7.47	179	
T	05/26/2015	1645	10.71	0.214	2.55	7.72	182	
T	05/26/2015	1650	10.87	0.216	2.12	7.81	182	GW-9970-052615-JCB-T
T	11/03/2015	910	10.39	0.22	0.03	6.35	-64	
T	11/03/2015	915	10.31	0.218	0.02	6.22	-67	
T	11/03/2015	920	10.36	0.218	0.02	6.49	-69	
T	11/03/2015	925	10.39	0.219	0.02	6.74	-70	
T	11/03/2015	930	10.38	0.219	0.02	6.99	-71	
T	11/03/2015	935	10.38	0.219	0.02	7.04	-71	GW-9970-110315-JCB-T
WW-13	05/26/2015	1525	10.81	0.112	11.13	7.87	239	
WW-13	05/26/2015	1530	10.72	0.122	11.84	7.89	243	
WW-13	05/26/2015	1535	10.69	0.127	11.97	8.1	242	
WW-13	05/26/2015	1540	10.73	0.124	11.7	8.23	238	
WW-13	05/26/2015	1545	10.70	0.125	11.76	8.27	236	GW-9970-052615-JCB-WW13
WW-13	11/02/2015	1550	10.9	0.104	8.18	7.81	17	
WW-13	11/02/2015	1555	10.68	0.109	9.07	7.44	22	
WW-13	11/02/2015	1600	10.67	0.11	9.27	7.71	29.0	
WW-13	11/02/2015	1605	10.6	0.111	9.17	7.86	31	
WW-13	11/02/2015	1610	10.54	0.118	9.04	7.9	31	
WW-13	11/02/2015	1615	10.51	0.119	8.97	7.94	31.0	GW-9970-110215-JCB-WW13
WW-2	05/28/2015	1015	10.85	0.167	5.27	7.16	-384	
WW-2	05/28/2015	1020	10.53	0.166	2.91	7.01	-383	
WW-2	05/28/2015	1025	10.49	0.169	2.27	7.22	-384	
WW-2	05/28/2015	1030	10.51	0.17	2.05	7.42	-384	
WW-2	05/28/2015	1035	10.5	0.172	1.89	7.56	-385	
WW-2	05/28/2015	1040	10.48	0.175	1.79	7.7	-385	
WW-2	05/28/2015	1045	10.47	0.178	1.68	7.81	-385	
WW-2	05/28/2015	1050	10.49	0.181	1.58	7.91	-384	
WW-2	05/28/2015	1055	10.5	0.183	1.54	7.98	-385	GW-9970-052815-JCB-WW2
WW-2	11/04/2015	1015	10.34	0.18	1.03	7.19	-132	
WW-2	11/04/2015	1020	10.32	0.180	0.96	7.34	-127	
WW-2	11/04/2015	1025	10.33	0.181	0.91	7.51	-130	
WW-2	11/04/2015	1030	10.32	0.183	0.81	7.61	-134	
WW-2	11/04/2015	1035	10.31	0.183	0.79	7.66	-134	GW-9970-110415-JCB-WW2
WW-24	05/26/2015	1430	10.65	0.226	5.16	7.18	144	
WW-24	05/26/2015	1435	10.35	0.223	3.19	6.93	159	
WW-24	05/26/2015	1440	10.23	0.222	3.14	7.04	173	
WW-24	05/26/2015	1445	10.17	0.222	2.46	7.17	184	
WW-24	05/26/2015	1450	10.06	0.221	2.28	7.2	184.0	GW-9970-052615-JCB-WW24
WW-24	11/02/2015	1455	10.63	0.206	1.83	6.19	-8.5	
WW-24	11/02/2015	1500	10.37	0.221	1.31	6.3	1	
WW-24	11/02/2015	1505	10.25	0.227	1.17	6.63	4.4	
WW-24	11/02/2015	1510	10.2	0.229	1.08	6.91	7.5	
WW-24	11/02/2015	1515	10.15	0.23	1.06	7.07	8.1	
WW-24	11/02/2015	1520	10.17	0.23	1.01	7.2	9.4	GW-9970-110215-JCB-WW24

2015 Field Stabilization Parameter
Plume Boundary Demonstration
Glenn Springs Holdings, Inc.
Montague, Michigan

Well ID	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)*	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	pH (s.u.)	ORP (millivolts)	Sample ID
WW-6	05/27/2015	1205	9.39	0.168	5.91	8.3	-260	
WW-6	05/27/2015	1210	9.40	0.173	6.55	8.11	-240	
WW-6	05/27/2015	1215	9.37	0.189	7.53	7.88	-226	
WW-6	05/27/2015	1220	9.31	0.193	8.76	7.78	-212	
WW-6	05/27/2015	1225	9.25	0.194	9	7.77	-218	
WW-6	05/27/2015	1230	9.23	0.194	9.34	7.75	-201	
WW-6	05/27/2015	1235	9.22	0.194	9.27	7.74	-200	GW-9970-052715-JCB-WW6
WW-6	11/03/2015	1310	10.3	0.167	5.83	7.11	-53	
WW-6	11/03/2015	1315	9.8	0.177	6.53	6.37	-42	
WW-6	11/03/2015	1320	9.74	0.187	7.5	6.64	-42	
WW-6	11/03/2015	1325	9.69	0.205	10.75	6.76	-40	
WW-6	11/03/2015	1330	9.71	0.208	11.42	6.94	-41	
WW-6	11/03/2015	1335	9.67	0.208	11.67	7.07	-44.0	
WW-6	11/03/2015	1340	9.66	0.209	11.78	7.16	-45	
WW-6	11/03/2015	1345	9.65	0.208	11.77	7.26	-46.0	GW-9970-110315-JCB-WW6

Notes:

*	- 24-hour clock (military time)
s.u.	- Standard Unit
DO	- Dissolved Oxygen
ORP	- Oxidation-Reduction Potential
(mS/cm)	-Millisiemens/centimeter
(mg/L)	- Milligrams per liter
°C	- Degrees Celsius

Appendix C
Concentration versus Time Graphs

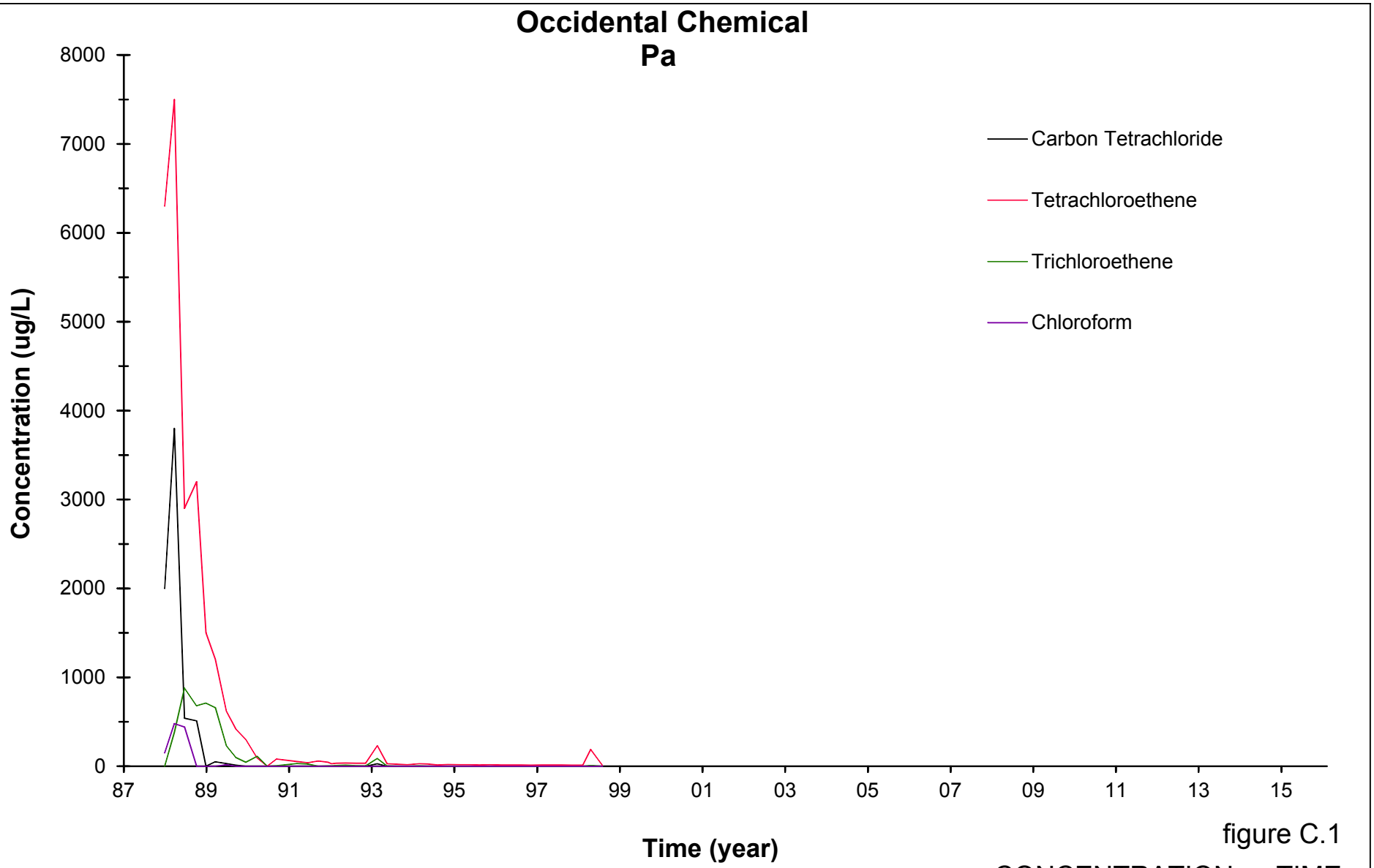


figure C.1

CONCENTRATION vs TIME
PURGE WELL Pa
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

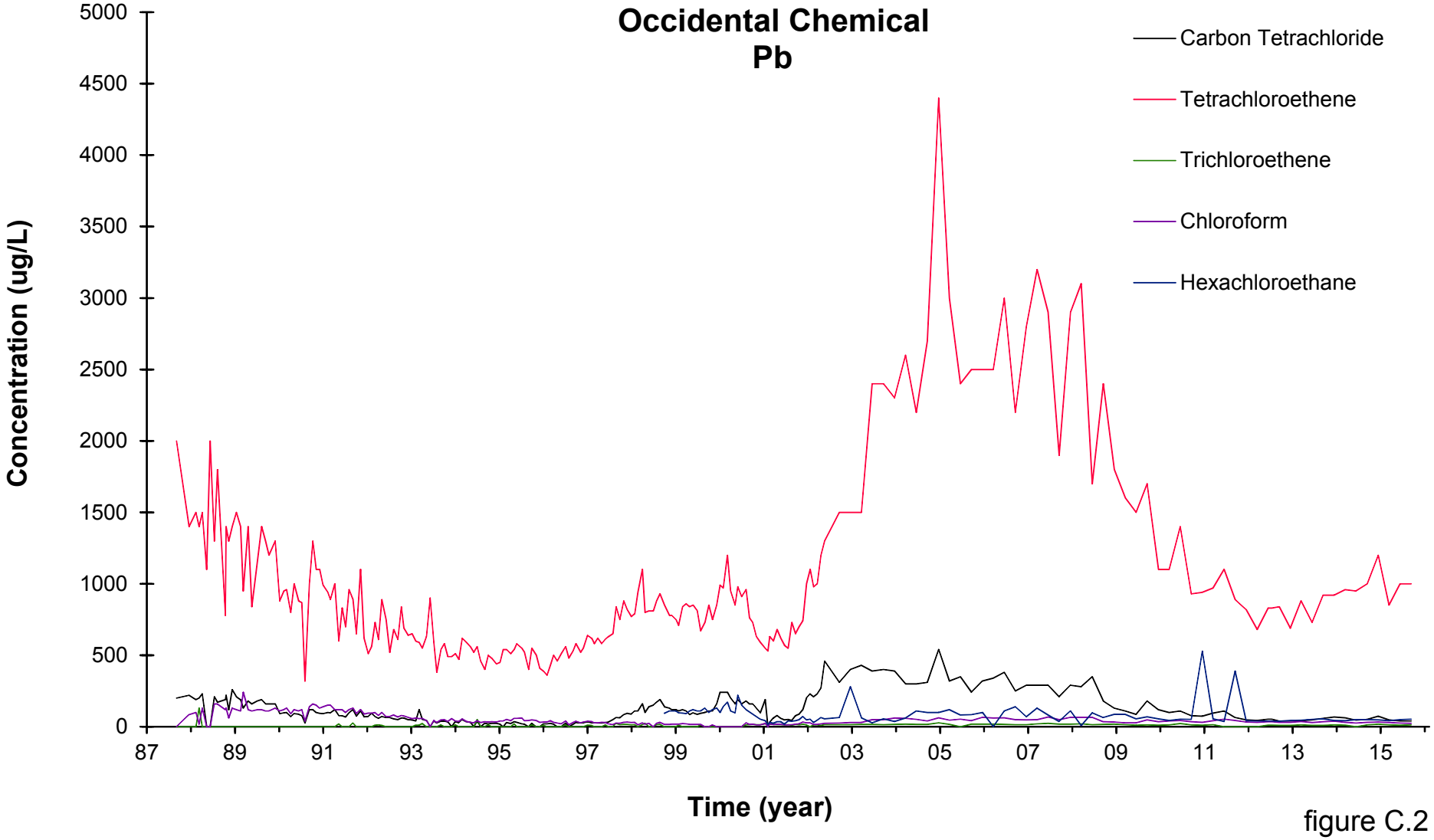


figure C.2

CONCENTRATION vs TIME
PURGE WELL Pb
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

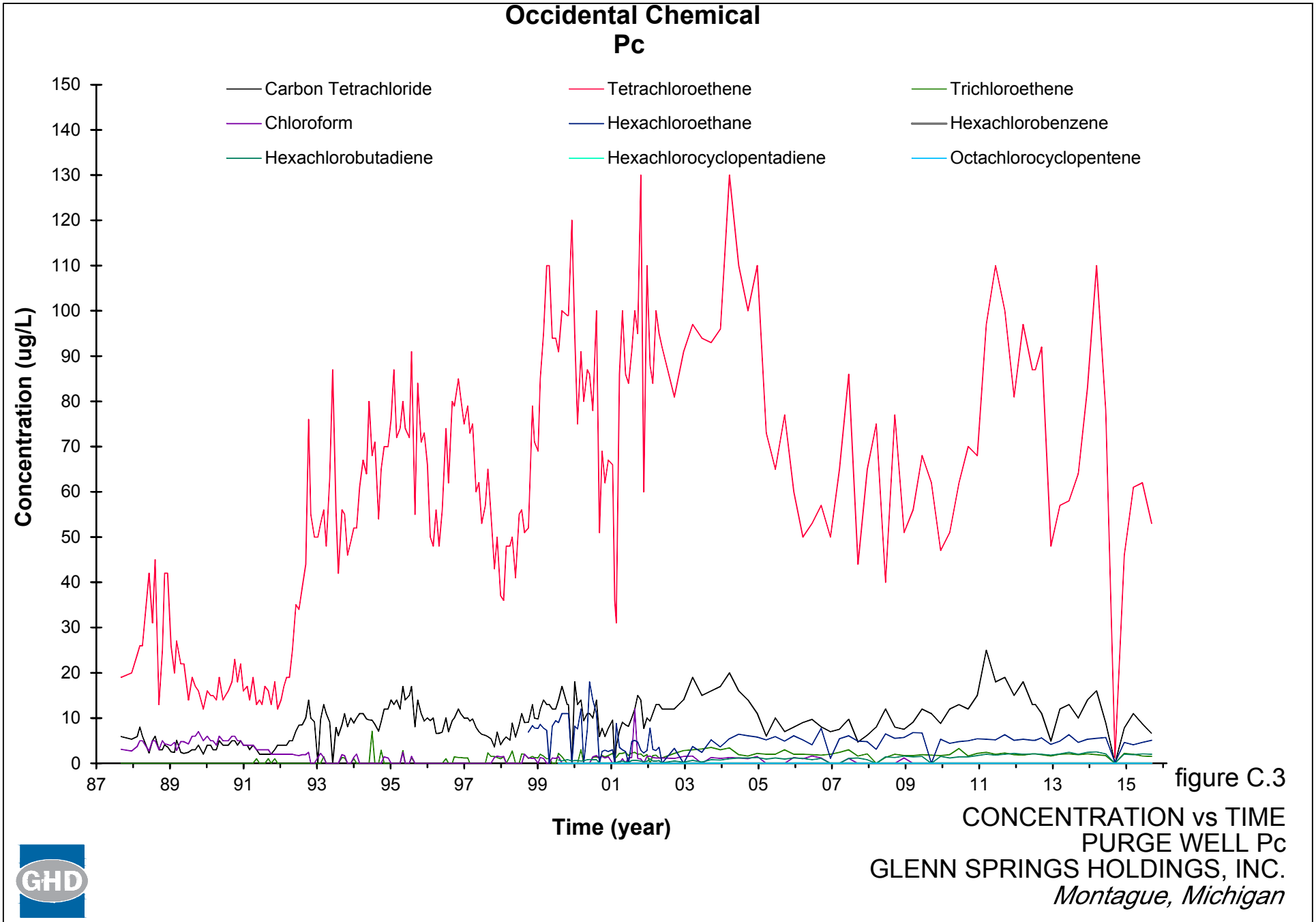


figure C.3

CONCENTRATION vs TIME
PURGE WELL Pc
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

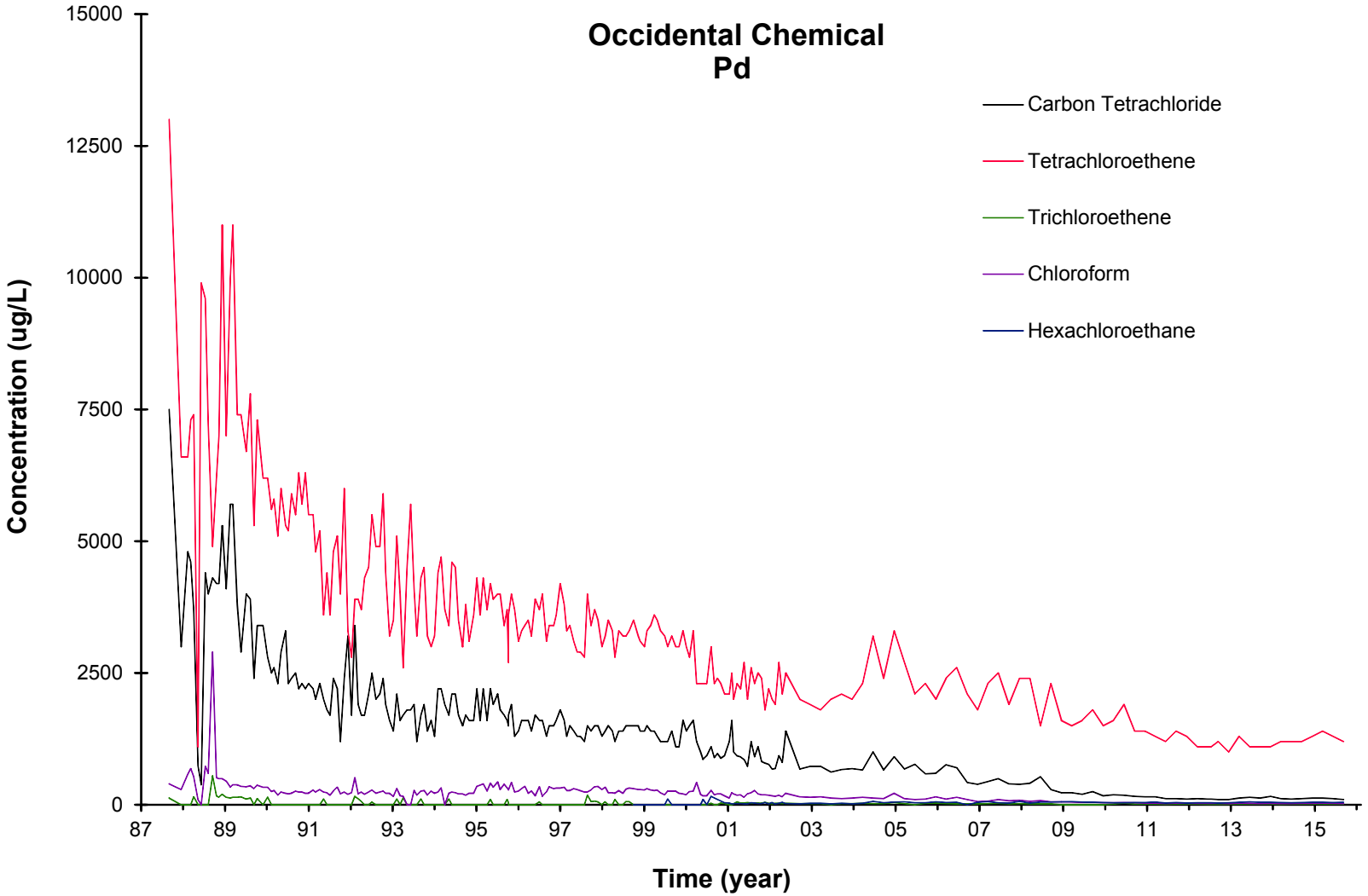


figure C.4

CONCENTRATION vs TIME
PURGE WELL Pd
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

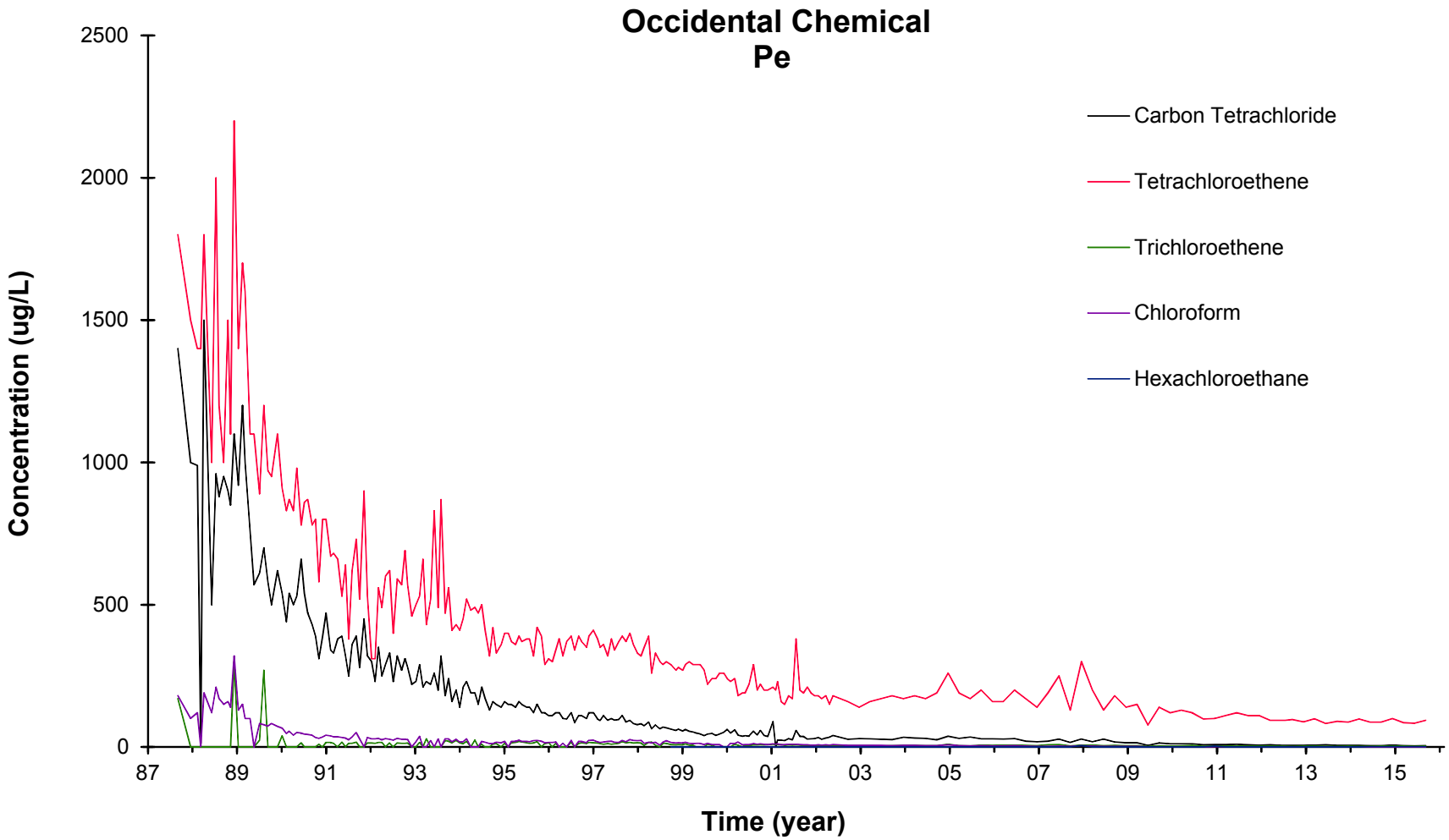


figure C.5

CONCENTRATION vs TIME
PURGE WELL Pe
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

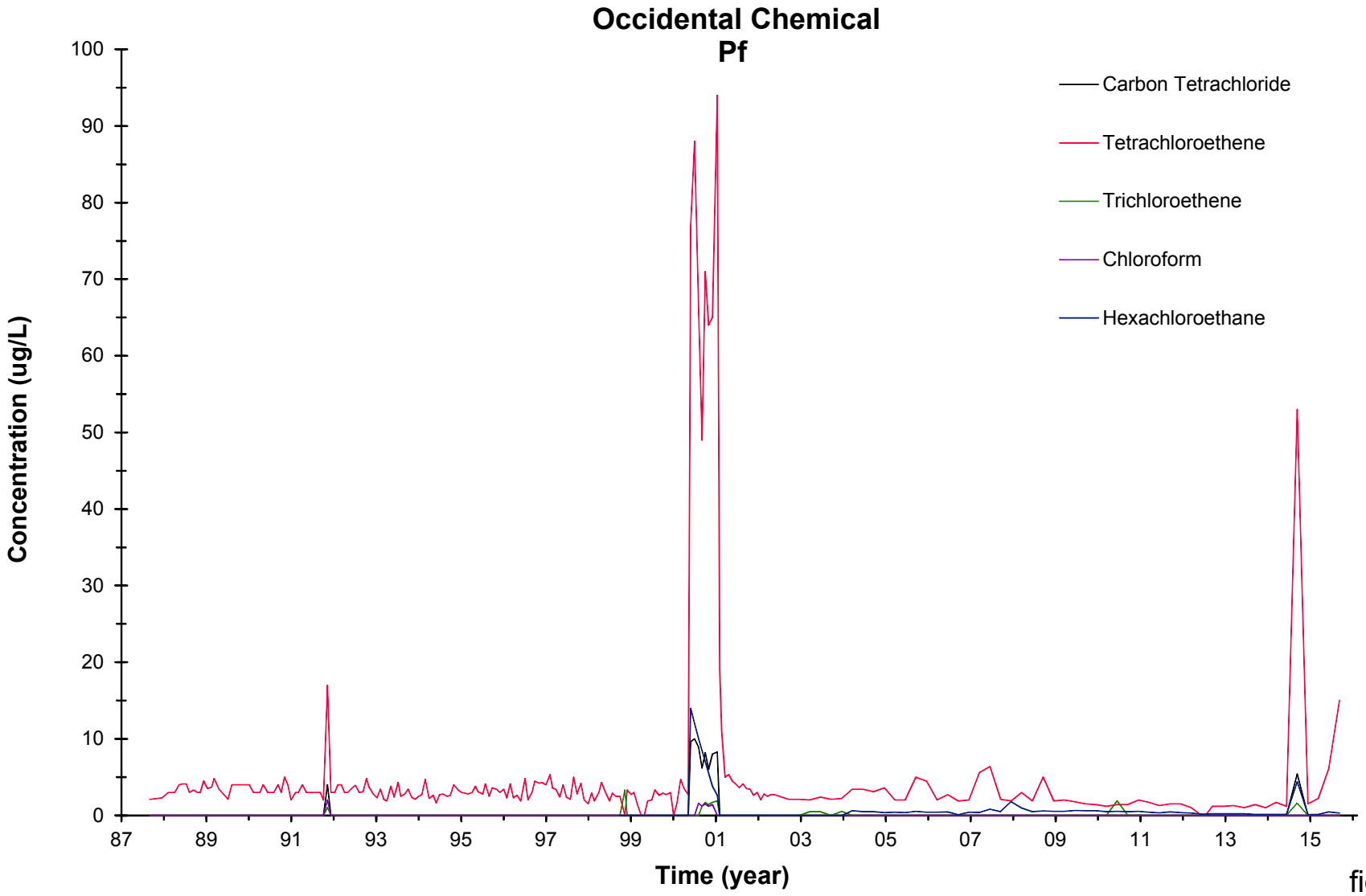


figure C.6

CONCENTRATION vs TIME
PURGE WELL Pf
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

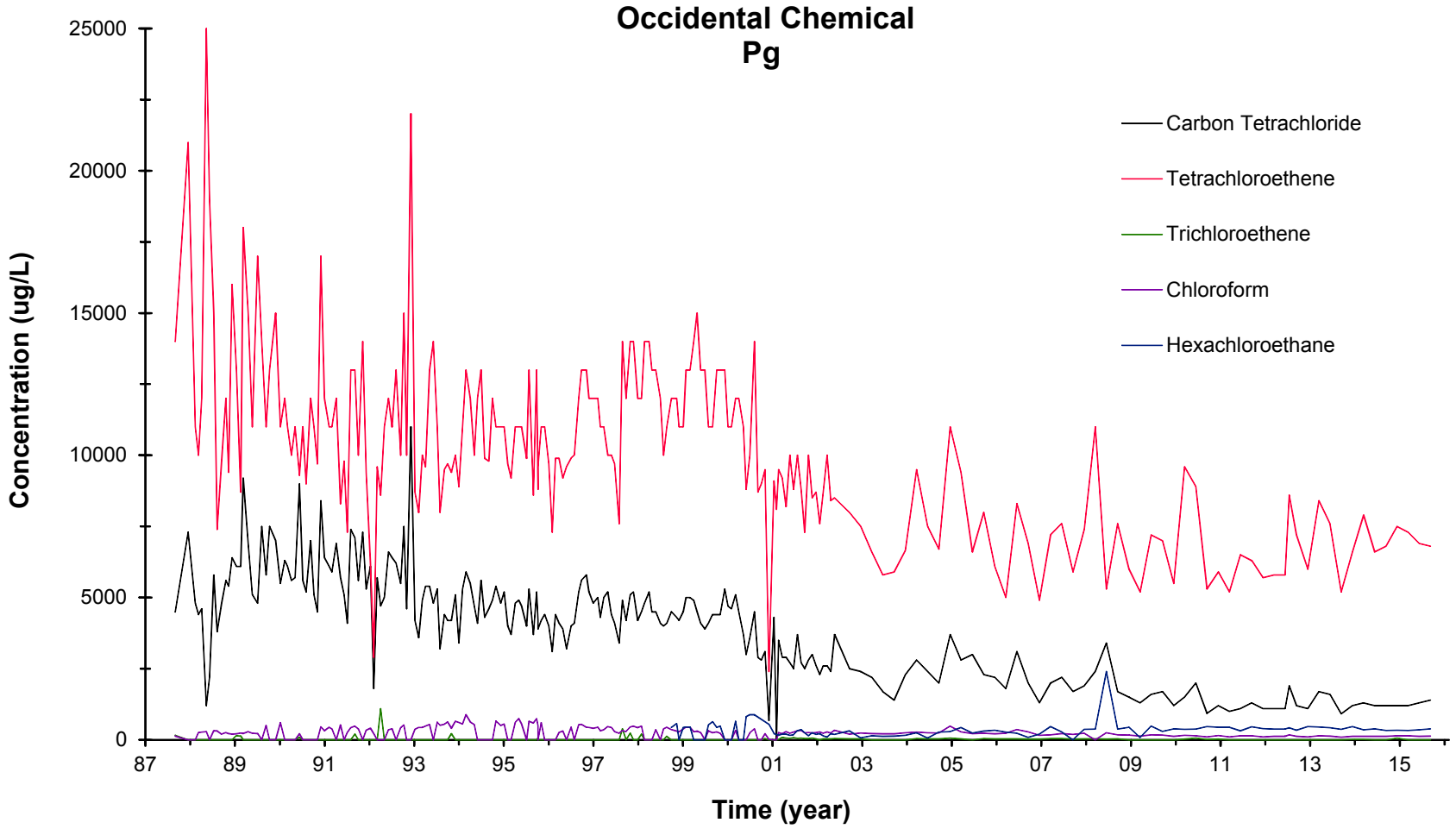


figure C.7

CONCENTRATION vs TIME
PURGE WELL Pg
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

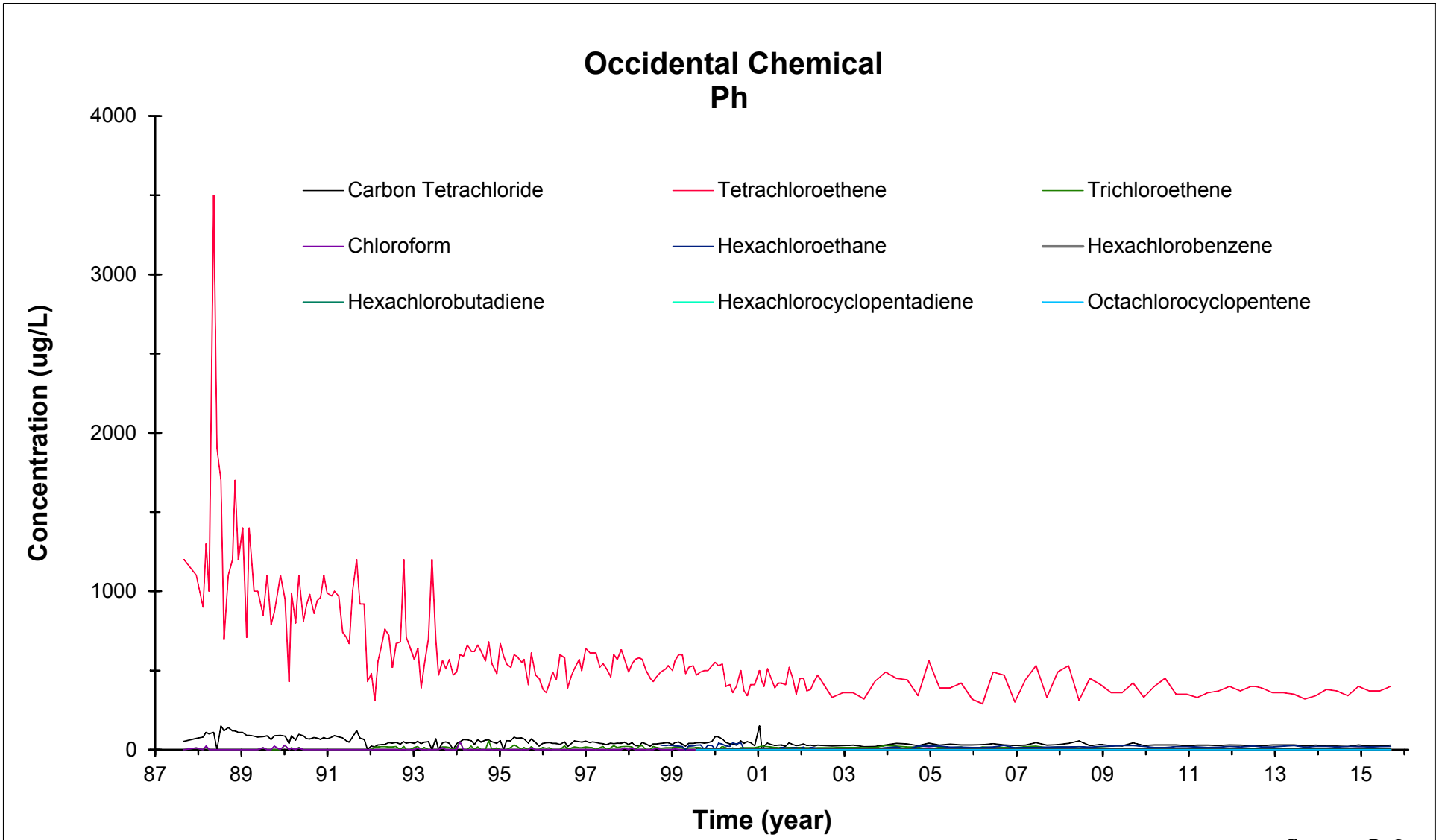


figure C.8

CONCENTRATION vs TIME
PURGE WELL Ph
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

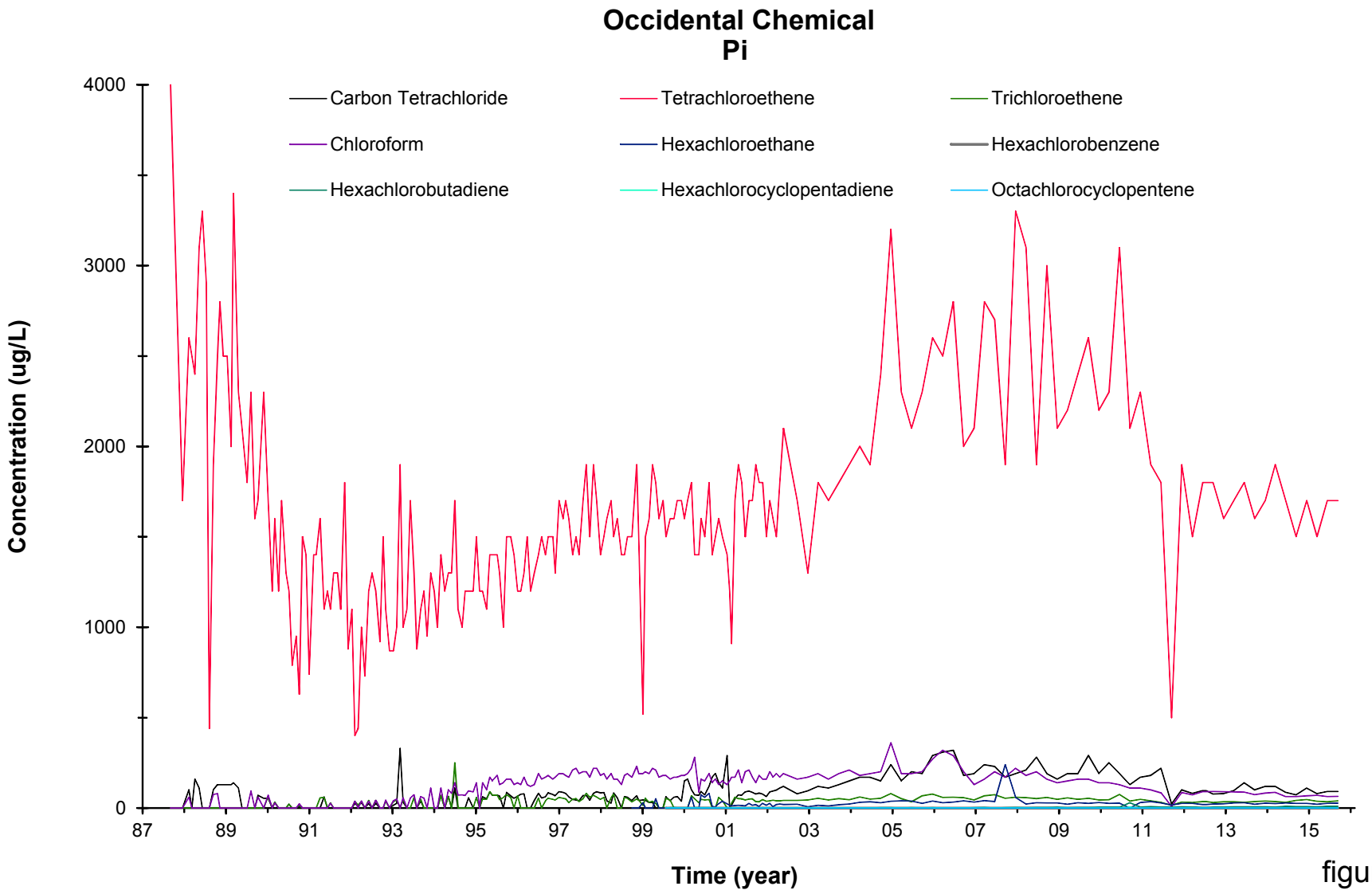


figure C.9

CONCENTRATION vs TIME
PURGE WELL Pi
GLENN SPRINGS HOLDINGS, INC.
Montague, Michigan

Appendix D
Historic Plume and Purge Well Concentrations 2010 - 2015

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		B	B	B	B	B
Sample ID:		GW-9970-052810-BFB-B	GW-9970-110410-BFB-B	GW-9970-052311-JCB-B	GW-9970-111011-JCB-B	GW-9970-051712-JCB-MW-B
Sample Date:		5/28/2010	11/4/2010	5/23/2011	11/10/2011	5/17/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.011 U	1.1 U	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	22000	21000	27000	19000	21000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		B	B	B	B	B
Sample ID:		GW-9970-112912-JCB-MW-B	GW-9970-052913-JCB-MW-B	WG-9970-112713-JCB-MW-B	WG-9970-112713-JCB--DUP1	GW-9970-052714-JCB-MW-B
Sample Date:		11/29/2012	5/29/2013	11/27/2013	11/27/2013 (Duplicate)	5/27/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
General Chemistry						
Chloride	µg/L	14000	20000	17000	18000	23000
Total organic carbon (TOC)	µg/L	-	-	-	-	

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		B	B	B	B	C
Sample ID:		WG-9970-110414-JCB-MW-B	WG-9970-052715-JCB-MW-B	WG-9970-052715-JCB-DUP-1	GW-9970-110315-JCB-B	GW-9970-052610-BFB-C
Sample Date:		11/4/2014	5/27/2015	5/27/2015 (Duplicate)	11/3/2015	5/26/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	3.3
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.010 U
Hexachloroethane	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.010 U
Octachlorocyclopentene	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.010 U
General Chemistry						
Chloride	µg/L	21000	30000	32000	20000	7200
Total organic carbon (TOC)	µg/L					-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		C	C	C	C	C
Sample ID:		GW-9970-110310-BFB-C	GW-9970-052311-JCB-C	GW-9970-111011-JCB-MW-C	GW-9970-051712-JCB-MW-C	GW-9970-112912-JCB-MW-C
Sample Date:		11/3/2010	5/23/2011	11/10/2011	5/17/2012	11/29/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	2.6	3.3	2.2	1.8	1.4
trans-1,2-Dichloroethene	µg/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	1.0 U	0.010 U	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	6900	6800	5400	4700	4400
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		C	C	C	C	C
Sample ID:		GW-9970-052913-JCB-MW-C	WG-9970-112613-JCB-MW-C	GW-9970-052714-JCB-MW-C	WG-9970-110414-JCB-MW-C	WG-9970-052715-JCB-MW-C
Sample Date:		5/29/2013	11/26/2013	5/27/2014	11/4/2014	5/27/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.7	1.1	1.0	2.0
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	4600	3700	2800	2500	2600
Total organic carbon (TOC)	µg/L	-	-			

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		C	MW-2	MW-03-01	MW-03-01	MW-03-01
Sample ID:		GW-9970-110315-JCB-C	GW-9970-BFB-102913-MW2	GW-9970-052710-BFB-301	GW-9970-052710-BFB-DUP1	GW-9970-110310-BFB-301
Sample Date:		11/3/2015	10/29/2013	5/27/2010	5/27/2010 (Duplicate)	11/3/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
Tetrachloroethene	µg/L	1.8	3.3	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.012 U	0.011 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.012 U	0.011 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.012 U	0.011 U	0.010 U
Hexachloroethane	µg/L	0.010 U	0.15	0.012 U	0.011 U	1.0 U
Octachlorocyclopentene	µg/L	0.010 U	0.012	0.012 U	0.011 U	0.010 U
General Chemistry						
Chloride	µg/L	2100	17000	1300	1600	1700
Total organic carbon (TOC)	µg/L		4700	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-03-01	MW-03-01	MW-03-01	MW-03-01	MW-03-01
Sample ID:		GW-9970-052011-JCB-301	WG-9970-110911-JCB-301	GW-9970-051812-JCB-MW-03-01	GW-9970-112912-JCB-MW03-01	GW-9970-052913-JCB-MW-03-01
Sample Date:		5/20/2011	11/10/2011	5/18/2012	11/29/2012	5/29/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Hexachloroethane	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
General Chemistry						
Chloride	µg/L	1400	1100	1300	1300	1500
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-03-01	MW-03-01	MW-03-01	MW-03-01	MW-03-01
Sample ID:		WG-9970-112713-JCB-MW-03-01	GW-9970-052814-JCB-MW-03-01	WG-9970-110414-JCB-MW-03-01	WG-9970-052715-JCB-MW-301	WG-9970-052715-JCB-DUP-2
Sample Date:		11/27/2013	5/28/2014	11/4/2014	5/27/2015	5/27/2015 (Duplicate)
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	1900	1600	1400	1200	1300
Total organic carbon (TOC)	µg/L	-				

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-03-01	MW-05-01	MW-05-01	MW-05-01	MW-05-01
Sample ID:		GW-9970-110315-JCB-301	GW-9970-052710-BFB-501	GW-9970-110310-BFB-501	GW-9970-110310-BFB-DUP1	GW-9970-052011-JCB-501
Sample Date:		11/3/2015	5/27/2010	11/3/2010	11/3/2010 (Duplicate)	5/20/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	0.50 U	0.50 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.019
Hexachlorocyclopentadiene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.015
Hexachloroethane	µg/L	0.010 U	0.011 U	1.1 U	1.0 U	0.023
Octachlorocyclopentene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	1300	7000	3000	3200	3700
Total organic carbon (TOC)	µg/L		-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-05-01	MW-05-01	MW-05-01	MW-05-01	MW-05-01
Sample ID:		GW-9970-110911-JCB-501	GW-9970-110911-JCB-Dup2	GW-9970-051812-JCB-MW-05-01	GW-9970-112912-JCB-MW-05-01	GW-9970-053013-JCB-MW-05-01
Sample Date:		11/9/2011	11/9/2011 (Duplicate)	5/18/2012	11/29/2012	5/30/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.010 U	0.010	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	2600	2400	2500	4400	4500
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-05-01	MW-05-01	MW-05-01	MW-05-01	MW-05-01
Sample ID:		WG-9970-112713-JCB-05-01	GW-9970-052814-JCB-MW-05-01	WG-9970-110414-JCB-MW05-01	WG-9970-052715-JCB-MW-501	GW-9970-110315-JCB-501
Sample Date:		11/27/2013	5/28/2014	11/4/2014	5/27/2015	11/3/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	4200	2900	1900	2000	2600
Total organic carbon (TOC)	µg/L	-				

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-02	MW-97-02	MW-97-02	MW-97-02	MW-97-02
Sample ID:		GW-9970-052710-BFB-972	GW-9970-052710-BFB-DUP2	GW-9970-110410-BFB-972	GW-9970-052011-JCB-972	GW-9970-110911-JCB-972
Sample Date:		5/27/2010	5/27/2010 (Duplicate)	11/4/2010	5/20/2011	11/9/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.011 U
Hexachloroethane	µg/L	0.010 U	0.010 U	1.1 U	0.010 U	0.011 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.011 U
General Chemistry						
Chloride	µg/L	96000	110000	140000	120000	160000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-02	MW-97-02	MW-97-02	MW-97-02	MW-97-02
Sample ID:		GW-9970-051812-JCB-MW97-2	GW-9970-112912-JCB-DUP2	GW-9970-112912-JCB-MW-97-2	GW-9970-052913-JCB-MW-97-2	WG-9970-112713-JCB-97-2
Sample Date:		5/18/2012	11/29/2012 (Duplicate)	11/29/2012	5/29/2013	11/27/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
General Chemistry						
Chloride	µg/L	18000	110000	100000	77000	59000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-02	MW-97-02	MW-97-02	MW-97-02	MW-97-03
Sample ID:		GW-9970-052814-JCB-MW-97-2	WG-9970-110414-JCB-MW97-2	WG-9970-052815-JCB-MW-972	GW-9970-110315-JCB-972	GW-9970-052610-BFB-973
Sample Date:		5/28/2014	11/4/2014	5/28/2015	11/3/2015	5/26/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	50000	63000	110000	120000	27000
Total organic carbon (TOC)	µg/L					-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-03	MW-97-03	MW-97-03	MW-97-03	MW-97-03
Sample ID:		GW-9970-110310-BFB-973	GW-9970-051811-JCB-973	GW-9970-110811-JCB-973	GW-9970-051612-JCB-97-3	GW-9970-112812-JCB-97-3
Sample Date:		11/3/2010	5/18/2011	11/8/2011	5/16/2012	11/28/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.012 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	0.012 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.012 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachloroethane	µg/L	1.2 U	0.010 U	0.010 U	0.010 U	0.011 U
Octachlorocyclopentene	µg/L	0.012 U	0.010 U	0.010 U	0.010 U	0.011 U
General Chemistry						
Chloride	µg/L	28000	27000	28000	27000	27000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-03	MW-97-03	MW-97-03	MW-97-03	MW-97-03
Sample ID:		GW-9970-052813-JCB-97-3	WG-9970-112513-JCB-97-3	GW-9970-052714-JCB-97-3	WG-9970-110314-JCB-97-3	WG-9970-052615-JCB-MW-973
Sample Date:		5/28/2013	11/25/2013	5/27/2014	11/3/2014	5/26/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.010 U
Hexachlorobutadiene	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.010 U
Hexachloroethane	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.010 U
Octachlorocyclopentene	µg/L	0.011 U	0.011 U	0.010 U	0.011 U	0.010 U
General Chemistry						
Chloride	µg/L	27000	31000	29000	26000	22000
Total organic carbon (TOC)	µg/L	-	-			

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-03	MW-97-04	MW-97-04	MW-97-04	MW-97-04
Sample ID:		GW-9970-110215-JCB-973	GW-9970-052610-BFB-974	GW-9970-110310-BFB-974	GW-9970-051911-JCB-974	GW-9970-110811-JCB-974
Sample Date:		11/2/2015	5/26/2010	11/3/2010	5/19/2011	11/8/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.011 U
Hexachloroethane	µg/L	0.010 U	0.011 U	1.1 U	0.010 U	0.011 U
Octachlorocyclopentene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.011 U
General Chemistry						
Chloride	µg/L	18000	2000	2200	2600	2500
Total organic carbon (TOC)	µg/L		-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-04	MW-97-04	MW-97-04	MW-97-04	MW-97-04
Sample ID:		GW-9970-051612-JCB-97-4	GW-9970-112812-JCB-97-4	GW-9970-052813-JCB-97-4	WG-9970-112513-JCB-97-4	GW-9970-052714-JCB-97-4
Sample Date:		5/16/2012	11/28/2012	5/28/2013	11/25/2013	5/27/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	2400	2100	2200	2700	2700
Total organic carbon (TOC)	µg/L	-	-	-	-	

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-04	MW-97-04	MW-97-04	MW-97-05	MW-97-05
Sample ID:		WG-9970-110314-JCB-97-4	WG-9970-052615-JCB-MW-974	GW-9970-110215-JCB-974	GW-9970-052610-BFB-975	GW-9970-110310-BFB-975
Sample Date:		11/3/2014	5/26/2015	11/2/2015	5/26/2010	11/3/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.011 U	0.011 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.010 U	0.011 U	0.011 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.011 U	0.011 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.010 U	0.011 U	0.011 U	0.011 U	1.1 U
Octachlorocyclopentene	µg/L	0.010 U	0.011 U	0.011 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	3500	4000	3600	12000	13000
Total organic carbon (TOC)	µg/L				-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-05	MW-97-05	MW-97-05	MW-97-05	MW-97-05
Sample ID:		GW-9970-051911-JCB-975	GW-9970-110811-JCB-975	GW-9970-110811-JCB-Dup1	GW-9970-051612-JCB-97-5	GW-9970-112812-JCB-97-5
Sample Date:		5/19/2011	11/8/2011	11/8/2011 (Duplicate)	5/16/2012	11/28/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.011 U
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.011 U	0.010 U	0.011 U
General Chemistry						
Chloride	µg/L	11000	13000	12000	13000	14000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-05	MW-97-05	MW-97-05	MW-97-05	MW-97-05
Sample ID:		GW-9970-052813-JCB-97-5	WG-9970-112513-JCB-97-5	GW-9970-052714-JCB-97-5	WG-9970-110314-JCB-97-5	WG-9970-110314-JCB-DUP1
Sample Date:		5/28/2013	11/25/2013	5/27/2014	11/3/2014	11/3/2014 (Duplicate)
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	11000	11000	13000	13000	13000
Total organic carbon (TOC)	µg/L	-	-			

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		MW-97-05	MW-97-05	Pb	Pb	Pb
Sample ID:		WG-9970-052615-JCB-MW-975	GW-9970-110215-JCB-975	GW-9970-BFB-012910-PB	WG-9970-BFB-042910-PB	WG-9970-BFB-073010-PB
Sample Date:		5/26/2015	11/2/2015	1/29/2010	4/29/2010	7/30/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	120	100	110
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	35	40	44
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	10 U	11	11
Tetrachloroethene	µg/L	1.0 U	1.0 U	1100	1100	1400
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	10 U	1.0 U	10 U
Trichloroethene	µg/L	1.0 U	1.0 U	11	12	22
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	2.0 U	2.0 U	2.0 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	2.0 U	2.0 U	2.0 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	2.0 U	2.0 U	2.0 U
Hexachloroethane	µg/L	0.010 U	0.010 U	55	45	54
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	2.0 U	2.0 U	2.0 U
General Chemistry						
Chloride	µg/L	14000	16000	21000	19000	18000
Total organic carbon (TOC)	µg/L			-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pb	Pb	Pb	Pb	Pb
Sample ID:		WG-9970-BFB-102010-PB	GW-9970-BFB-012411-PB	GW-9970-BFB-042911-PB	WG-9970-BFB-072211-PB	WG-9970-BFB-103111-PB
Sample Date:		10/20/2010	1/24/2011	4/29/2011	7/22/2011	10/31/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	77	74	96	110	64
Chloroform (Trichloromethane)	µg/L	34	31	43	53	45
cis-1,2-Dichloroethene	µg/L	14	12	11	10 U	15
Tetrachloroethene	µg/L	930	940	970	1100	890
trans-1,2-Dichloroethene	µg/L	1.0 U	10 U	10 U	10 U	10 U
Trichloroethene	µg/L	13	11	14	10 U	10 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.63	0.76	0.71	0.61	0.62
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U
Hexachloroethane	µg/L	52	530	55	37	390
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	18000	18000	18000	17000	13000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pb	Pb	Pb	Pb	Pb
Sample ID:		WG-9970-BFB-013112-PB	WG-9970-JCB-041812-PB	GW-9970-BFB-073112-PB	GW-9970-BFB-103112-PB	WG-9970-BFB-013113-PB
Sample Date:		1/31/2012	4/18/2012	7/31/2012	10/31/2012	1/31/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	47	45	53	40	41
Chloroform (Trichloromethane)	µg/L	33	31	34	32	31
cis-1,2-Dichloroethene	µg/L	12	12	12	9.2	12
Tetrachloroethene	µg/L	820	680	830	840	690
trans-1,2-Dichloroethene	µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	10 U	10 U	11	9.0	10
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.73	0.62	0.59	0.51	0.65
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	43	40	41	39	44
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	14000	15000	14000	13000	16000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pb	Pb	Pb	Pb	Pb
Sample ID:		WG-9970-BFB-042513-PB	WG-9970-BFB-072313-PB	WG-9970-BFB-102913-PB	WG-9970-BFB-013114-PB	WG-9970-BFB-040414-PB
Sample Date:		4/25/2013	7/23/2013	10/29/2013	1/31/2014	4/4/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	42	48	58	68	63
Chloroform (Trichloromethane)	µg/L	37	30	34	38	32
cis-1,2-Dichloroethene	µg/L	12	12	10	12	10
Tetrachloroethene	µg/L	880	730	920	920	960
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	10 U	1.0 U	1.0 U
Trichloroethene	µg/L	12	9.6	10	12	11
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	46	52	55	44	43
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	14000	12000	12000	13000	12000
Total organic carbon (TOC)	µg/L	-	-	1400	-	

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pb	Pb	Pb	Pb	Pb
Sample ID:		WG-9970-BFB-072514-PB	WG-9970-BFB-103014-PB	WG-9970-BFB-012915-PB	WG-9970-BFB-042915-PB	WG-9970-BFB-072815-PB
Sample Date:		7/25/2014	10/30/2014	1/29/2015	4/29/2015	07/28/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	46	51	73	47	40
Chloroform (Trichloromethane)	µg/L	26	32	33	29	25
cis-1,2-Dichloroethene	µg/L	10 U	14	12	12	11
Tetrachloroethene	µg/L	950	1000	1200	850	1000
trans-1,2-Dichloroethene	µg/L	10 U	10 U	10 U	10 U	10 U
Trichloroethene	µg/L	10 U	12	18	13	11
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.040 U	0.040 U	0.040	0.040 U	0.040 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	50	50	48	42	50
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	12000	11000	14000	13000	12000
Total organic carbon (TOC)	µg/L					

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pb	Pc	Pc	Pc	Pc
Sample ID:		WG-9970-BFB-103015-PB	GW-9970-BFB-012910-PC	WG-9970-BFB-042910-PC	WG-9970-BFB-073010-PC	WG-9970-BFB-102010-PC
Sample Date:		10/30/2015	1/29/2010	4/29/2010	7/30/2010	10/20/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	41	8.8	12	13	12
Chloroform (Trichloromethane)	µg/L	24	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	11	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1000	47	51	62	70
trans-1,2-Dichloroethene	µg/L	10 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	13	1.7	1.9	3.3	1.6
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.20 U	0.20 U	0.20 U	0.010 U
Hexachlorobutadiene	µg/L	0.040 U	1.5	1.2	1.4	1.4
Hexachlorocyclopentadiene	µg/L	0.010 U	0.20 U	0.20 U	0.20 U	0.010 U
Hexachloroethane	µg/L	53	5.3	4.4	4.8	5.0
Octachlorocyclopentene	µg/L	0.010 U	0.20 U	0.20 U	0.20 U	0.010 U
General Chemistry						
Chloride	µg/L	12000	17000	14000	14000	14000
Total organic carbon (TOC)	µg/L		-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pc	Pc	Pc	Pc	Pc
Sample ID:		GW-9970-BFB-012411-PC	GW-9970-BFB-042911-PC	WG-9970-BFB-072211-PC	WG-9970-BFB-103111-PC	WG-9970-BFB-013112-PC
Sample Date:		1/24/2011	4/29/2011	7/22/2011	10/31/2011	1/31/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	15	25	18	19	15
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	68	97	110	100	81
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	2.2	2.4	2.0	2.3	1.9
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.0022 U
Hexachlorobutadiene	µg/L	1.7	2.0	1.8	2.0	2.2
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	5.4	5.3	5.2	6.3	5.1
Octachlorocyclopentene	µg/L	0.011	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	14000	11000	15000	17000	13000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pc	Pc	Pc	Pc	Pc
Sample ID:		WG-9970-JCB-041812-PC	GW-9970-BFB-073112-PC	GW-9970-BFB-103112-PC	WG-9970-BFB-013113-PC	WG-9970-BFB-042513-PC
Sample Date:		4/18/2012	7/31/2012	10/31/2012	1/31/2013	4/25/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	18	13	11	4.9	12
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	97	87	92	48	57
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.8	2.1	1.9	1.6	2.0
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	2.0	2.1	2.0	1.8	2.1
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	5.3	5.1	5.6	4.2	4.9
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	11000	15000	13000	11000	11000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pc	Pc	Pc	Pc	Pc
Sample ID:		WG-9970-BFB-072313-PC	WG-9970-BFB-102913-PC	WG-9970-BFB-013114-PC	WG-9970-BFB-040414-PC	WG-9970-BFB-072514-PC
Sample Date:		7/23/2013	10/29/2013	1/31/2014	4/4/2014	7/25/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	13	10	14	16	8.9
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	58	64	83	110	78
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	2.1	1.9	2.1	1.9	1.7
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	2.4	2.0	2.4	2.5	2.1
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	6.3	4.6	5.3	5.5	5.7
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	15000	12000	11000	9300	15000
Total organic carbon (TOC)	µg/L	-	1200	-		

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pc	Pc	Pc	Pc	Pc
Sample ID:		WG-9970-BFB-103014-PC	WG-9970-BFB-012915-PC	WG-9970-BFB-042915-PC	WG-9970-BFB-072815-PC	WG-9970-BFB-103015-PC
Sample Date:		10/30/2014	1/29/2015	4/29/2015	07/28/2015	10/30/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	5.4	7.8	11	8.7	6.6
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	53	46	61	62	53
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.6	2.2	2.0	1.6	1.5
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	2.1	2.0	1.9	2.1	2.0
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	4.4	4.6	4.1	4.6	5.1
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	14000	11000	12000	14000	14000
Total organic carbon (TOC)	µg/L					

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pd	Pd	Pd	Pd	Pd
Sample ID:		GW-9970-BFB-012910-PD	WG-9970-BFB-042910-PD	WG-9970-BFB-073010-PD	WG-9970-BFB-102010-PD	GW-9970-BFB-012411-PD
Sample Date:		1/29/2010	4/29/2010	7/30/2010	10/20/2010	1/24/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	170	190	180	160	150
Chloroform (Trichloromethane)	µg/L	38	40	41	37	35
cis-1,2-Dichloroethene	µg/L	20 U	5.7	20 U	6.0	6.4
Tetrachloroethene	µg/L	1500	1600	1900	1400	1400
trans-1,2-Dichloroethene	µg/L	20 U	2.0 U	20 U	1.0 U	5.0 U
Trichloroethene	µg/L	20 U	14	31	14	13
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	2.0 U	2.0 U	2.0 U	0.088	0.010 U
Hexachlorocyclopentadiene	µg/L	2.0 U	2.0 U	2.0 U	0.010 U	0.010 U
Hexachloroethane	µg/L	45	36	39	42	41
Octachlorocyclopentene	µg/L	2.0 U	2.0 U	2.0 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	130000	140000	140000	150000	160000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pd	Pd	Pd	Pd	Pd
Sample ID:		GW-9970-BFB-042911-PD	WG-9970-BFB-072211-PD	WG-9970-BFB-103111-PD	WG-9970-BFB-013112-PD	WG-9970-JCB-041812-PD
Sample Date:		4/29/2011	7/22/2011	10/31/2011	1/31/2012	4/18/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	150	120	120	110	120
Chloroform (Trichloromethane)	µg/L	32	26	33	28	29
cis-1,2-Dichloroethene	µg/L	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	µg/L	1300	1200	1400	1300	1100
trans-1,2-Dichloroethene	µg/L	10 U	10 U	10 U	10 U	10 U
Trichloroethene	µg/L	13	10	14	12	12
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.076	0.071	0.011 U	0.065	0.11
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U
Hexachloroethane	µg/L	50	34	45	33	37
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.011 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	160000	150000	130000	160000	250000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pd	Pd	Pd	Pd	Pd
Sample ID:		GW-9970-BFB-073112-PD	GW-9970-BFB-103112-PD	WG-9970-BFB-013113-PD	WG-9970-BFB-042513-PD	WG-9970-BFB-072313-PD
Sample Date:		7/31/2012	10/31/2012	1/31/2013	4/25/2013	7/23/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	110	100	100	130	140
Chloroform (Trichloromethane)	µg/L	27	27	26	31	30
cis-1,2-Dichloroethene	µg/L	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	µg/L	1100	1200	1000	1300	1100
trans-1,2-Dichloroethene	µg/L	10 U	10 U	10 U	10 U	10 U
Trichloroethene	µg/L	11	10	10	13	12
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.092	0.010 U	0.084	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	39	35	40	47	55
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	220000	210000	230000	240000	210000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pd	Pd	Pd	Pd	Pd
Sample ID:		WG-9970-BFB-102913-PD	WG-9970-BFB-013114-PD	WG-9970-BFB-040414-PD	WG-9970-BFB-072514-PD	WG-9970-BFB-103014-PD
Sample Date:		10/29/2013	1/31/2014	4/4/2014	7/25/2014	10/30/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	130	160	120	110	120
Chloroform (Trichloromethane)	µg/L	25	28	26	24	29
cis-1,2-Dichloroethene	µg/L	10 U	8.2	6.3	10 U	10 U
Tetrachloroethene	µg/L	1100	1100	1200	1200	1200
trans-1,2-Dichloroethene	µg/L	10 U	1.0 U	1.0 U	10 U	10 U
Trichloroethene	µg/L	12	14	11	12	14
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.016	0.018	0.010 U	0.11
Hexachlorocyclopentadiene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	49	49	42	40	44
Octachlorocyclopentene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	210000	220000	210000	190000	210000
Total organic carbon (TOC)	µg/L	1200	-			

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pd	Pd	Pd	Pd	Pe
Sample ID:		WG-9970-BFB-012915-PD	WG-9970-BFB-042915-PD	WG-9970-BFB-072815-PD	WG-9970-BFB-103015-PD	GW-9970-BFB-012910-PE
Sample Date:		1/29/2015	4/29/2015	07/28/2015	10/30/2015	1/29/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	130	130	120	100	11
Chloroform (Trichloromethane)	µg/L	27	31	27	24	1.4
cis-1,2-Dichloroethene	µg/L	10 U	10 U	10 U	10 U	4.2
Tetrachloroethene	µg/L	1300	1400	1300	1200	120
trans-1,2-Dichloroethene	µg/L	10 U	10 U	10 U	10 U	1.0 U
Trichloroethene	µg/L	20	17	14	16	3.4
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.11	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Hexachloroethane	µg/L	47	46	45	49	0.30
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
General Chemistry						
Chloride	µg/L	190000	190000	180000	190000	120000
Total organic carbon (TOC)	µg/L					-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pe	Pe	Pe	Pe	Pe
Sample ID:		WG-9970-BFB-042910-PE	WG-9970-BFB-073010-PE	WG-9970-BFB-102010-PE	GW-9970-BFB-012411-PE	GW-9970-BFB-042911-PE
Sample Date:		4/29/2010	7/30/2010	10/20/2010	1/24/2011	4/29/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	11	11	8.0	8.2	9.0
Chloroform (Trichloromethane)	µg/L	1.4	1.4	1.0 U	1.1	1.2
cis-1,2-Dichloroethene	µg/L	4.9	4.3	2.6	3.2	3.6
Tetrachloroethene	µg/L	130	120	98	100	110
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	4.2	5.5	2.4	2.8	3.1
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.32	0.29	0.32	3.6	0.49
Octachlorocyclopentene	µg/L	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	140000	140000	97000	110000	110000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pe	Pe	Pe	Pe	Pe
Sample ID:		WG-9970-BFB-072211-PE	WG-9970-BFB-103111-PE	WG-9970-BFB-013112-PE	WG-9970-JCB-041812-PE	GW-9970-BFB-073112-PE
Sample Date:		7/22/2011	10/31/2011	1/31/2012	4/18/2012	7/31/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	10	7.9	6.8	7.3	5.9
Chloroform (Trichloromethane)	µg/L	1.0 U	1.1	1.0 U	1.0 U	1.0
cis-1,2-Dichloroethene	µg/L	3.6	3.3	3.1	2.8	2.3
Tetrachloroethene	µg/L	120	110	110	94	94
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	3.3	3.2	2.9	2.8	2.7
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.43	0.64	0.41	0.29	0.52
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	120000	120000	120000	110000	110000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pe	Pe	Pe	Pe	Pe
Sample ID:		GW-9970-BFB-103112-PE	WG-9970-BFB-013113-PE	GW-9970-BFB-042513-PE	WG-9970-BFB-072313-PE	WG-9970-BFB-102913-PE
Sample Date:		10/31/2012	1/31/2013	4/25/2013	7/23/2013	10/29/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	6.0	5.9	6.4	7.8	6.2
Chloroform (Trichloromethane)	µg/L	1.1	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	2.2	2.8	2.7	2.4	2.5
Tetrachloroethene	µg/L	97	88	99	83	90
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	2.4	2.8	2.9	2.5	2.5
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.42	0.51	0.55	0.71	0.68
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	110000	120000	110000	100000	110000
Total organic carbon (TOC)	µg/L	-	-	-	-	840

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pe	Pe	Pe	Pe	Pe
Sample ID:		WG-9970-BFB-013114-PE	WG-9970-BFB-040414-PE	WG-9970-BFB-072514-PE	WG-9970-BFB-103014-PE	WG-9970-BFB-012915-PE
Sample Date:		1/31/2014	4/4/2014	7/25/2014	10/30/2014	1/29/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	5.8	6.3	4.9	5.2	6.8
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	3.1	2.6	2.4	2.9	3.0
Tetrachloroethene	µg/L	87	98	87	87	100
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	2.9	2.6	2.4	2.7	3.4
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.81	0.85	0.93	1.1	1.1
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	110000	110000	99000	98000	100000
Total organic carbon (TOC)	µg/L	-				

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pe	Pe	Pe	Pf	Pf
Sample ID:		WG-9970-BFB-042915-PE	WG-9970-BFB-072815-PE	WG-9970-BFB-103015-PE	GW-9970-BFB-012910-PF	WG-9970-BFB-042910-PF
Sample Date:		4/29/2015	07/28/2015	10/30/2015	1/29/2010	4/29/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	4.8	4.3	5.4	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	3.0	2.5	3.0	1.0 U	1.0 U
Tetrachloroethene	µg/L	86	84	94	1.4	1.2
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	3.0	2.6	3.5	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.020 U	0.020 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.020 U	0.020 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.020 U	0.020 U
Hexachloroethane	µg/L	1.1	1.2	1.6	0.62	0.50
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.020 U	0.020 U
General Chemistry						
Chloride	µg/L	110000	95000	110000	3100	3000
Total organic carbon (TOC)	µg/L				-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pf	Pf	Pf	Pf	Pf
Sample ID:		WG-9970-BFB-073010-PF	WG-9970-BFB-102010-PF	GW-9970-BFB-012411-PF	GW-9970-BFB-042911-PF	WG-9970-BFB-072211-PF
Sample Date:		7/30/2010	10/20/2010	1/24/2011	4/29/2011	7/22/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.4	1.4	2.0	1.7	1.3
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.9	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.54	0.50	0.51	0.44	0.34
Octachlorocyclopentene	µg/L	0.020 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	9900	3500	8400	8100	3200
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pf	Pf	Pf	Pf	Pf
Sample ID:		WG-9970-BFB-103111-PF	WG-9970-BFB-013112-PF	WG-9970-JCB-041812-PF	GW-9970-BFB-073112-PF	GW-9970-BFB-103112-PF
Sample Date:		10/31/2011	1/31/2012	4/18/2012	7/31/2012	10/31/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.5	1.5	1.0	1.0 U	1.2
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.47	0.37	0.30	0.17	0.20
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	5000	3000	2600	2600	2600
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pf	Pf	Pf	Pf	Pf
Sample ID:		WG-9970-BFB-013113-PF	WG-9970-BFB-042513-PF	WG-9970-BFB-072313-PF	WG-9970-BFB-102913-PF	WG-9970-BFB-013114-PF
Sample Date:		1/31/2013	4/25/2013	7/23/2013	10/29/2013	1/31/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.2	1.3	1.0	1.4	1.0
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.20	0.20	0.20	0.14	0.15
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	2900	2900	2600	2500	2800
Total organic carbon (TOC)	µg/L	-	-	-	750	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pf	Pf	Pf	Pf	Pf
Sample ID:		WG-9970-BFB-040414-PF	WG-9970-BFB-072514-PF	WG-9970-BFB-103014-PF	WG-9970-BFB-012915-PF	WG-9970-BFB-042915-PF
Sample Date:		4/4/2014	7/25/2014	10/30/2014	1/29/2015	4/29/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.7	1.2	1.3	1.5	2.2
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.15	0.15	0.14	0.11	0.14
Octachlorocyclopentene	µg/L	0.010 U	0.011 U	0.011 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	2500	2400	2200	2300	2300
Total organic carbon (TOC)	µg/L					

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pf	Pf	Pg	Pg	Pg
Sample ID:		WG-9970-BFB-072815-PF	WG-9970-BFB-103015-PF	GW-9970-BFB-012910-PG	WG-9970-BFB-042910-PG	WG-9970-BFB-073010-PG
Sample Date:		07/28/2015	10/30/2015	1/29/2010	4/29/2010	7/30/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1200	1500	2000
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	120	160	140
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	50 U	5.0 U	50 U
Tetrachloroethene	µg/L	6.1	15	5500	9600	8900
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	50 U	5.0 U	50 U
Trichloroethene	µg/L	1.0 U	1.0 U	50 U	23	65
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	20 U	20 U	20 U
Hexachlorobutadiene	µg/L	0.11	0.13	20 U	20 U	20 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	20 U	20 U	20 U
Hexachloroethane	µg/L	0.46	0.31	390	370	380
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	20 U	20 U	20 U
General Chemistry						
Chloride	µg/L	2400	3700	34000	33000	35000
Total organic carbon (TOC)	µg/L			-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pg	Pg	Pg	Pg	Pg
Sample ID:		WG-9970-BFB-102010-PG	GW-9970-BFB-012411-PG	GW-9970-BFB-042911-PG	WG-9970-BFB-072211-PG	GW-9970-BFB-072711-PG
Sample Date:		10/20/2010	1/24/2011	4/29/2011	7/22/2011	7/27/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	930	1200	1000	-	1100
Chloroform (Trichloromethane)	µg/L	110	150	110	-	140
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	50 U	-	50 U
Tetrachloroethene	µg/L	5300	5900	5200	-	6500
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	50 U	-	50 U
Trichloroethene	µg/L	17	23	50 U	-	50 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	-
Hexachlorobutadiene	µg/L	4.6	4.3	3.4	3.1	-
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.016	0.18	-
Hexachloroethane	µg/L	470	440	440	320	-
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	-
General Chemistry						
Chloride	µg/L	38000	46000	60000	64000	-
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pg	Pg	Pg	Pg	Pg
Sample ID:		WG-9970-BFB-103111-PG	WG-9970-BFB-013112-PG	WG-9970-JCB-041812-PG	GW-9970-BFB-080312-PG	GW-9970-BFB-103112-PG
Sample Date:		10/31/2011	1/31/2012	4/18/2012	8/3/2012	10/31/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1300	1100	1100	1900	1200
Chloroform (Trichloromethane)	µg/L	140	110	120	180	120
cis-1,2-Dichloroethene	µg/L	50 U	50 U	50 U	50 U	50 U
Tetrachloroethene	µg/L	6300	5700	5800	8600	7200
trans-1,2-Dichloroethene	µg/L	50 U	50 U	50 U	50 U	50 U
Trichloroethene	µg/L	50 U	50 U	50 U	50 U	50 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	4.4	4.4	3.7	3.7	3.6
Hexachlorocyclopentadiene	µg/L	0.010 U	0.017	0.010 U	0.026	0.010 U
Hexachloroethane	µg/L	460	400	380	420	340
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	55000	60000	56000	36000	43000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pg	Pg	Pg	Pg	Pg
Sample ID:		WG-9970-BFB-013113-PG	WG-9970-BFB-042513-PG	WG-9970-BFB-072313-PG	WG-9970-BFB-102913-PG	WG-9970-BFB-013114-PG
Sample Date:		1/31/2013	4/25/2013	7/23/2013	10/29/2013	1/31/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1100	1700	1600	910	1200
Chloroform (Trichloromethane)	µg/L	110	140	130	100	120
cis-1,2-Dichloroethene	µg/L	50 U	50 U	50 U	50 U	2.5
Tetrachloroethene	µg/L	6000	8400	7600	5200	6600
trans-1,2-Dichloroethene	µg/L	50 U	50 U	50 U	50 U	1.0 U
Trichloroethene	µg/L	50 U	50 U	50 U	50 U	19
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	4.8	0.22	0.20 U	0.33	0.59
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	470	450	420	370	470
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	41000	37000	36000	28000	29000
Total organic carbon (TOC)	µg/L	-	-	-	1600	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pg	Pg	Pg	Pg	Pg
Sample ID:		WG-9970-BFB-040414-PG	WG-9970-BFB-0725114-PG	WG-9970-BFB-103014-PG	WG-9970-BFB-012915-PG	WG-9970-BFB-042915-PG
Sample Date:		4/4/2014	7/25/2014	10/30/2014	1/29/2015	4/29/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1300	1200	1200	1200	1200
Chloroform (Trichloromethane)	µg/L	120	120	120	140	140
cis-1,2-Dichloroethene	µg/L	5.0 U	50 U	50 U	50 U	50 U
Tetrachloroethene	µg/L	7900	6600	6800	7500	7300
trans-1,2-Dichloroethene	µg/L	5.0 U	50 U	50 U	50 U	50 U
Trichloroethene	µg/L	17	50 U	50 U	58	50 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.53	0.80	1.3	1.6	1.8
Hexachlorocyclopentadiene	µg/L	0.010 U	0.020	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	350	390	330	340	330
Octachlorocyclopentene	µg/L	0.010 U	0.012	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	29000	25000	25000	25000	28000
Total organic carbon (TOC)	µg/L					

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pg	Pg	Ph	Ph	Ph
Sample ID:		WG-9970-BFB-072815-PG	WG-9970-BFB-103015-PG	GW-9970-BFB-012910-PH	WG-9970-BFB-042910-PH	WG-9970-BFB-073010-PH
Sample Date:		07/28/2015	10/30/2015	1/29/2010	4/29/2010	7/30/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1300	1400	27	31	31
Chloroform (Trichloromethane)	µg/L	120	130	6.8	6.9	7.5
cis-1,2-Dichloroethene	µg/L	50 U	50 U	5.0 U	3.2	5.0 U
Tetrachloroethene	µg/L	6900	6800	330	400	450
trans-1,2-Dichloroethene	µg/L	50 U	50 U	5.0 U	2.8	5.0 U
Trichloroethene	µg/L	50 U	50 U	7.6	8.6	15
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	1.0 U	0.50 U	0.50 U
Hexachlorobutadiene	µg/L	2.4	3.1	1.9	1.6	1.4
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	1.0 U	0.50 U	0.50 U
Hexachloroethane	µg/L	350	390	20	15	15
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	1.0 U	0.50 U	0.50 U
General Chemistry						
Chloride	µg/L	24000	24000	120000	120000	140000
Total organic carbon (TOC)	µg/L			-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Ph	Ph	Ph	Ph	Ph
Sample ID:		WG-9970-BFB-102010-PH	GW-9970-BFB-012411-PH	GW-9970-BFB-042911-PH	WG-9970-BFB-072211-PH	WG-9970-BFB-103111-PH
Sample Date:		10/20/2010	1/24/2011	4/29/2011	7/22/2011	10/31/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	30	26	28	28	27
Chloroform (Trichloromethane)	µg/L	6.6	6.7	6.6	6.2	8.6
cis-1,2-Dichloroethene	µg/L	3.1	3.0	2.8	2.7	3.4
Tetrachloroethene	µg/L	350	350	330	360	370
trans-1,2-Dichloroethene	µg/L	2.5	2.5 U	2.5 U	2.5 U	2.8
Trichloroethene	µg/L	7.8	7.4	7.0	6.4	7.3
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.012
Hexachlorobutadiene	µg/L	1.7	2.3	2.5	2.3	2.1
Hexachlorocyclopentadiene	µg/L	0.010 U	0.012	0.015	0.013	0.016
Hexachloroethane	µg/L	19	19	17	15	16
Octachlorocyclopentene	µg/L	0.010 U	0.011	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	120000	120000	110000	110000	110000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Ph	Ph	Ph	Ph	Ph
Sample ID:		WG-9970-BFB-013112-PH	WG-9970-JCB-041812-PH	GW-9970-BFB-073112-PH	GW-9970-BFB-103112-PH	WG-9970-BFB-013113-PH
Sample Date:		1/31/2012	4/18/2012	7/31/2012	10/31/2012	1/31/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	30	28	26	25	30
Chloroform (Trichloromethane)	µg/L	6.0	7.3	7.6	9.1	8.3
cis-1,2-Dichloroethene	µg/L	3.1	5.0 U	2.7	2.5	3.0
Tetrachloroethene	µg/L	400	370	400	390	360
trans-1,2-Dichloroethene	µg/L	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U
Trichloroethene	µg/L	7.1	7.7	9.4	6.3	8.6
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.0027	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	2.5	2.2	5.4	2.2	2.5
Hexachlorocyclopentadiene	µg/L	0.020	0.015	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	20	18	23	18	18
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	120000	120000	96000	91000	100000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Ph	Ph	Ph	Ph	Ph
Sample ID:		WG-9970-BFB-042513-PH	WG-9970-BFB-072313-PH	WG-9970-BFB-102913-PH	WG-9970-BFB-013114-PH	WG-9970-BFB-040414-PH
Sample Date:		4/25/2013	7/23/2013	10/29/2013	1/31/2014	4/4/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	31	30	24	28	22
Chloroform (Trichloromethane)	µg/L	8.1	9.0	7.3	9.0	8.5
cis-1,2-Dichloroethene	µg/L	2.9	3.3	3.4	3.8	3.4
Tetrachloroethene	µg/L	360	350	320	340	380
trans-1,2-Dichloroethene	µg/L	2.5 U	2.5 U	2.5 U	2.2	1.9
Trichloroethene	µg/L	8.9	6.6	7.7	7.4	6.2
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	3.1	3.0	3.0	2.8	2.4
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	22	25	16	20	20
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	97000	88000	89000	95000	96000
Total organic carbon (TOC)	µg/L	-	-	2000	-	

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Ph	Ph	Ph	Ph	Ph
Sample ID:		WG-9970-BFB-072514-PH	WG-9970-BFB-103014-PH	WG-9970-BFB-012915-PH	WG-9970-BFB-042915-PH	WG-9970-BFB-072815-PH
Sample Date:		7/25/2014	10/30/2014	1/29/2015	4/29/2015	07/28/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	22	21	31	23	23
Chloroform (Trichloromethane)	µg/L	8.0	9.0	11	9.9	9.4
cis-1,2-Dichloroethene	µg/L	3.9	3.4	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	370	340	400	370	370
trans-1,2-Dichloroethene	µg/L	2.0	2.5 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	7.1	7.6	11	9.2	6.7
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	3.0	3.2	3.4	3.1	3.3
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	18	20	20	18	19
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	97000	97000	100000	110000	91000
Total organic carbon (TOC)	µg/L					

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Ph	Pi	Pi	Pi	Pi
Sample ID:		WG-9970-BFB-103015-PH	GW-9970-BFB-012910-PI	WG-9970-BFB-042910-PI	WG-9970-BFB-073010-PI	WG-9970-BFB-102010-PI
Sample Date:		10/30/2015	1/29/2010	4/29/2010	7/30/2010	10/20/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	28	190	250	190	130
Chloroform (Trichloromethane)	µg/L	10	140	140	130	110
cis-1,2-Dichloroethene	µg/L	5.0 U	46	53	51	42
Tetrachloroethene	µg/L	400	2200	2300	3100	2100
trans-1,2-Dichloroethene	µg/L	5.0 U	25 U	3.6	25 U	2.7
Trichloroethene	µg/L	8.7	45	46	75	38
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	1.0 U	1.0 U	1.0 U	0.010 U
Hexachlorobutadiene	µg/L	3.6	4.1	3.8	4.4	30
Hexachlorocyclopentadiene	µg/L	0.010 U	1.0 U	1.0 U	1.0 U	4.5
Hexachloroethane	µg/L	20	31	25	27	0.40
Octachlorocyclopentene	µg/L	0.010 U	1.0 U	1.0 U	1.0 U	0.010 U
General Chemistry						
Chloride	µg/L	97000	610000	500000	510000	570000
Total organic carbon (TOC)	µg/L		-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pi	Pi	Pi	Pi	Pi
Sample ID:		GW-9970-BFB-012411-PI	GW-9970-BFB-042911-PI	WG-9970-BFB-072211-PI	WG-9970-BFB-103111-PI	WG-9970-BFB-013112-PI
Sample Date:		1/24/2011	4/29/2011	7/22/2011	10/31/2011	1/31/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	170	180	220	22	100
Chloroform (Trichloromethane)	µg/L	110	100	84	7.8	85
cis-1,2-Dichloroethene	µg/L	52	46	39	15	41
Tetrachloroethene	µg/L	2300	1900	1800	500	1900
trans-1,2-Dichloroethene	µg/L	25 U	25 U	25 U	5.0 U	10 U
Trichloroethene	µg/L	49	40	32	15	33
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	5.7	7.8	5.7	4.4	6.0
Hexachlorocyclopentadiene	µg/L	0.015	0.030	0.073	0.010 U	0.010
Hexachloroethane	µg/L	31	36	28	17	25
Octachlorocyclopentene	µg/L	0.015	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	610000	590000	570000	91000	550000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pi	Pi	Pi	Pi	Pi
Sample ID:		WG-9970-JCB-041812-PI	GW-9970-BFB-073112-PI	GW-9970-BFB-103112-PI	WG-9970-BFB-013113-PI	WG-9970-BFB-042513-PI
Sample Date:		4/18/2012	7/31/2012	10/31/2012	1/31/2013	4/25/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	82	97	77	80	97
Chloroform (Trichloromethane)	µg/L	73	90	91	90	89
cis-1,2-Dichloroethene	µg/L	41	44	39	48	41
Tetrachloroethene	µg/L	1500	1800	1800	1600	1700
trans-1,2-Dichloroethene	µg/L	20 U	20 U	20 U	10 U	20 U
Trichloroethene	µg/L	31	36	31	34	34
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	5.5	2.7	4.7	5.8	6.2
Hexachlorocyclopentadiene	µg/L	0.010 U	0.014	0.010 U	0.015	0.010 U
Hexachloroethane	µg/L	25	19	22	23	28
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	580000	570000	530000	510000	530000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pi	Pi	Pi	Pi	Pi
Sample ID:		WG-9970-BFB-072313-PI	WG-9970-BFB-102913-PI	WG-9970-BFB-013114-PI	WG-9970-BFB-040414-PI	WG-9970-BFB-072514-PI
Sample Date:		7/23/2013	10/29/2013	1/31/2014	4/4/2014	7/25/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	140	100	120	120	86
Chloroform (Trichloromethane)	µg/L	88	74	83	87	64
cis-1,2-Dichloroethene	µg/L	43	44	52	48	40
Tetrachloroethene	µg/L	1800	1600	1700	1900	1700
trans-1,2-Dichloroethene	µg/L	10 U	10 U	3.1	3.0	10 U
Trichloroethene	µg/L	32	36	38	36	32
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	6.7	6.0	6.3	5.4	8.6
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	30	21	27	24	28
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.010 U	0.011	0.010 U
General Chemistry						
Chloride	µg/L	490000	580000	520000	570000	460000
Total organic carbon (TOC)	µg/L	-	2000	-		

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		Pi	Pi	Pi	Pi	Pi
Sample ID:		WG-9970-BFB-103014-PI	WG-9970-BFB-012915-PI	WG-9970-BFB-042915-PI	WG-9970-BFB-072815-PI	WG-9970-BFB-103015-PI
Sample Date:		10/30/2014	1/29/2015	4/29/2015	07/28/2015	10/30/2015
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	72	110	80	92	92
Chloroform (Trichloromethane)	µg/L	64	68	70	63	65
cis-1,2-Dichloroethene	µg/L	38	43	52	41	46
Tetrachloroethene	µg/L	1500	1700	1500	1700	1700
trans-1,2-Dichloroethene	µg/L	20 U	20 U	20 U	10 U	20 U
Trichloroethene	µg/L	42	47	37	34	40
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	8.0	8.5	6.5	9.4	9.2
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	26	26	21	26	27
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	470000	470000	540000	450000	460000
Total organic carbon (TOC)	µg/L					

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		T	T	T	T	T
Sample ID:		WG-9970-052810-BFB-T	GW-9970-110410-BFB-T	GW-9970-052311-JCB-T	GW-9970-111011-JCB-T	GW-9970-051712-JCB-MW-T
Sample Date:		5/28/2010	11/4/2010	5/23/2011	11/10/2011	5/17/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	2.4	2.7	2.3	2.2	2.0
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.011 U	1.1 U	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.011 U	0.011 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	8900	8500	7600	6900	6800
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		T	T	T	T	T
Sample ID:		GW-9970-112912-JCB-MW-T	GW-9970-052813-JCB-MW-T	WG-9970-112613-JCB-MW-T	GW-9970-052714-JCB-MW-T	WG-9970-110314-JCB-MW-T
Sample Date:		11/29/2012	5/28/2013	11/26/2013	5/27/2014	11/3/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	2.2	2.2	2.5	2.4	2.8
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	0.010 U	0.011 U	0.010 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	7800	8700	8800	8400	9600
Total organic carbon (TOC)	µg/L	-	-	-		

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		White Lake	WW-02	WW-02	WW-02	WW-02
Sample ID:		SW-9970-BFB-102913-LK	GW-9970-052710-BFB-WW2	GW-9970-110410-BFB-WW2	GW-9970-052311-JCB-Dup2	GW-9970-052311-JCB-WW2
Sample Date:		10/29/2013	5/27/2010	11/4/2010	5/23/2011 (Duplicate)	5/23/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.1	1.4	1.2	1.4
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.012 U	0.011 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.012 U	0.011 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.012 U	0.011 U	0.010 U
Hexachloroethane	µg/L	0.010 U	0.010 U	1.2 U	0.011 U	0.010 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.012 U	0.011 U	0.010 U
General Chemistry						
Chloride	µg/L	22000	92000	24000	57000	58000
Total organic carbon (TOC)	µg/L	3800	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-02	WW-02	WW-02	WW-02	WW-02
Sample ID:		GW-9970-111011-JCB-WW2	GW-9970-051812-JCB-WW-2	GW-9970-112912-JCB-WW-2	GW-9970-053013-JCB-WW-2	WG-9970-112713-JCB-WW-2
Sample Date:		11/10/2011	5/18/2012	11/29/2012	5/30/2013	11/27/2013
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.011 U
General Chemistry						
Chloride	µg/L	13000	58000	7100	32000	47000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-02	WW-02	WW-02	WW-02	WW-02
Sample ID:		GW-9970-052814-JCB-WW-2	WG-9970-110414-JCB-WW-2	WG-9970-052815-JCB-WW-2	GW-9970-110415-JCB-WW2	GW-9970-110415-JCB-DUP2
Sample Date:		5/28/2014	11/4/2014	5/28/2015	11/4/2015	11/4/2015 (Duplicate)
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	110000	4900	9300	6400	7800
Total organic carbon (TOC)	µg/L					

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-06	WW-06	WW-06	WW-06	WW-06
Sample ID:		GW-9970-052710-BFB-WW6	GW-9970-110310-BFB-WW6	GW-9970-052011-JCB-Dup1	GW-9970-052011-JCB-WW06	GW-9970-110911-JCB-WW06
Sample Date:		5/27/2010	11/3/2010	5/20/2011 (Duplicate)	5/20/2011	11/9/2011
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.010 U	1.1 U	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	2500	2100	1900	1900	1900
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-06	WW-06	WW-06	WW-06	WW-06
Sample ID:		GW-9970-051712-JCB-WW-06	GW-9970-112912-JCB-DUP1	GW-9970-112912-JCB-WW-06	GW-9970-052913-JCB-WW-6	GW-9970-JCB-DUP2
Sample Date:		5/17/2012	11/29/2012 (Duplicate)	11/29/2012	5/29/2013	5/29/2013 (Duplicate)
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.010 U	0.011 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	2200	3200	2800	2900	3500
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-06	WW-06	WW-06	WW-06	WW-06
Sample ID:		WG-9970-112713-JCB-WW-6	WG-9970-112713-JCB--DUP2	GW-9970-052814-JCB-WW-6	GW-9970-052814-JCB-Dup2	WG-9970-110414-JCB-WW-6
Sample Date:		11/27/2013	11/27/2013 (Duplicate)	5/28/2014	5/28/2014 (Duplicate)	11/4/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	3400	3500	2200	2600	1700
Total organic carbon (TOC)	µg/L	-	-			

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-06	WW-06	WW-06	WW-13	WW-13
Sample ID:		WG-9970-110414-JCB-DUP2	WG-9970-052715-JCB-WW-6	WG-9970-110315-JCB-WW6	WG-9970-052810-BFB-WW13	GW-9970-110510-BFB-WW13
Sample Date:		11/4/2014 (Duplicate)	5/27/2015	11/3/2015	5/28/2010	11/5/2010
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.011 U	0.011 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.011 U	0.011 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.011 U	0.011 U	0.010 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.011 U	0.011 U	0.010 U	1.1 U
Octachlorocyclopentene	µg/L	0.011 U	0.011 U	0.011 U	0.010 U	0.011 U
General Chemistry						
Chloride	µg/L	1900	1900	1700	4900	4000
Total organic carbon (TOC)	µg/L				-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-13	WW-13	WW-13	WW-13	WW-13
Sample ID:		GW-9970-051911-JCB-WW13	GW-9970-110911-JCB-WW13	GW-9970-051712-JCB-DUP2	GW-9970-051712-JCB-WW-13	GW-9970-112812-JCB-WW-13
Sample Date:		5/19/2011	11/9/2011	5/17/2012 (Duplicate)	5/17/2012	11/28/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U
Hexachloroethane	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.011 U
General Chemistry						
Chloride	µg/L	3100	1300	1000 U	1400	1400
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-13	WW-13	WW-13	WW-13	WW-13
Sample ID:		GW-9970-052813-JCB-WW-13	WG-9970-112613-JCB-WW-13	GW-9970-052714-JCB-WW-13	GW-9970-052714-JCB-Dup1	WG-9970-110314-JCB-WW-13
Sample Date:		5/28/2013	11/26/2013	5/27/2014	5/27/2014 (Duplicate)	11/3/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.011 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	1900	1700	1700	1900	5500
Total organic carbon (TOC)	µg/L	-	-			

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-13	WW-13	WW-13	WW-24	WW-24
Sample ID:		WG-9970-052615-JCB-WW-13	GW-9970-110215-JCB-WW13	GW-9970-110215-JCB-DUP1	WG-9970-052810-BFB-WW24	GW-9970-110510-BFB-DUP2
Sample Date:		5/26/2015	11/2/2015	11/2/2015 (Duplicate)	5/28/2010	11/5/2010 (Duplicate)
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	1.1 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.011 U	0.011 U	0.011 U
General Chemistry						
Chloride	µg/L	4000	2700	2000	11000	11000
Total organic carbon (TOC)	µg/L				-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-24	WW-24	WW-24	WW-24	WW-24
Sample ID:		GW-9970-110510-BFB-WW24	GW-9970-051911-JCB-WW24	GW-9970-110811-JCB-WW24	GW-9970-051712-JCB-DUP1	GW-9970-051712-JCB-WW-24
Sample Date:		11/5/2010	5/19/2011	11/8/2011	5/17/2012 (Duplicate)	5/17/2012
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.010 U
Hexachloroethane	µg/L	1.1 U	0.010 U	0.010 U	0.010 U	0.010 U
Octachlorocyclopentene	µg/L	0.011 U	0.010 U	0.010 U	0.010 U	0.010 U
General Chemistry						
Chloride	µg/L	11000	11000	7700	11000	12000
Total organic carbon (TOC)	µg/L	-	-	-	-	-

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		WW-24	WW-24	WW-24	WW-24	WW-24
Sample ID:		GW-9970-112812-JCB-WW-24	GW-9970-052813-JCB-WW-24	GW-9970-JCB-DUP1	WG-9970-112613-JCB-WW-24	GW-9970-052714-JCB-WW-24
Sample Date:		11/28/2012	5/28/2013	5/28/2013 (Duplicate)	11/26/2013	5/27/2014
Parameters	**Units**					
Volatile Organic Compounds						
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds						
Hexachlorobenzene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Hexachlorobutadiene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Hexachlorocyclopentadiene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Hexachloroethane	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
Octachlorocyclopentene	µg/L	0.010 U	0.010 U	0.010 U	0.011 U	0.010 U
General Chemistry						
Chloride	µg/L	11000	13000	13000	11000	10000
Total organic carbon (TOC)	µg/L	-	-	-	-	

Notes:

U - Not detected at the associated reporting limit
- Not analyzed

Table D.1

Analytical Results Summary
Purge & Plume Sampling
Glenn Springs Holdings, Inc.
Montague, Michigan
2010-2015

Sample Location:		**WW-24**	**WW-24**	**WW-24**
Sample ID:		**WG-9970-110314-JCB-WW-24**	**WG-9970-052615-JCB-WW24**	**GW-9970-110215-JCB-WW24**
Sample Date:		**11/3/2014**	**5/26/2015**	**11/2/2015**
Parameters	**Units**			
Volatile Organic Compounds				
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U
Semi-volatile Organic Compounds				
Hexachlorobenzene	µg/L	0.011 U	0.011 U	0.011 U
Hexachlorobutadiene	µg/L	0.011 U	0.011 U	0.011 U
Hexachlorocyclopentadiene	µg/L	0.011 U	0.011 U	0.011 U
Hexachloroethane	µg/L	0.011 U	0.011 U	0.011 U
Octachlorocyclopentene	µg/L	0.011 U	0.011 U	0.011 U
General Chemistry				
Chloride	µg/L	6400	8500	9500
Total organic carbon (TOC)	µg/L			

Notes:

U - Not detected at the associated reporting limit
- Not analyzed